XR-1400

SERVICE MANUAL

US Model
Canadian Model

Model Name Using Similar Mechanism	XR-2100
Tape Transport Mechanism Type	MG-36SHJ-32

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
4 watts per channel minimum continuous average power into 4 ohms, 4 channels driven, from 80 Hz to 20 kHz with no more than 1% total harmonic distortion.

Other Specifications

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.2 % (WRMS)
Frequency response	50 – 15,000 Hz
Signal-to- noise ratio	50 dB

Tuner section

FM

Tuning range	87.5 – 108 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	12 dBf
Selectivity	65 dB at 400 kHz
Signal-to-noise ratio	55 dB (stereo), 60 dB (mono)
Harmonic distortion at 1 kHz	1.5% (stereo), 1.0% (mono)
Separation	25 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	9 dB

AM

Tuning range	520 – 1,720 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450 kHz
Sensitivity	35 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	7 W × 4 (at 4 ohms) 15 W × 2 (at 4 ohms)

General

Output lead	Power antenna relay control lead
Tone controls	12 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 x 50 x 150 mm (7 x 2 x 6 in.) (w/h/d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 x 53 x 153 mm (7 1/4 x 2 1/8 x 6 1/8 in.) (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.5 kg (3 lb. 5 oz.)
Supplied accessories	Connecting cord Mounting hardware (1 set)

Design and specifications are subject to change without notice.

使用時は添付資料も参照のこと
Refer to the additional documents.

FM/AM CASSETTE CAR STEREO

SONY®

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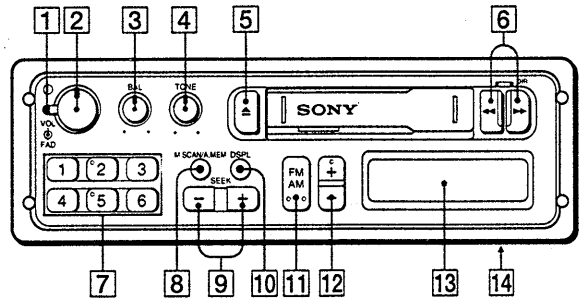
Button Locations



Refer to the pages in ● for details.

1 **FAD (fader) control**
Turn the outer knob to adjust the balance between front and rear speakers.

To decrease the rear-speaker's volume

To decrease the front-speaker's volume

NOTE
On a 2-speaker system, set to the front position by turning the outer knob upwards.

2 **VOL (on/off, volume) control**
Turn the inner knob to turn the unit on or off and to adjust the volume.

3 **BAL (balance) control**
Turn the knob to adjust the balance between right and left speakers.

4 **TONE control**
Turn the knob to the left for less treble.

5 **⏏ (eject) button** ❺

6 **◀◀ /▶▶ (fast-winding)/DIR (tape transport direction change)** ❹❺

7 **Preset number buttons** ❻

8 **M.SCAN/A.MEM button** ❻❼

9 **SEEK (automatic tuning) button** ❺

10 **DSPL (display mode change/time set) button** ❹

11 **FM/AM (band select) button** ❺❻❼

12 **+/– button** ❹❻

13 **Display window**

14 **OUTPUT SELECT switch (located on the bottom of the unit)**
See "OUTPUT SELECT Switch" in the Installation/Connections manual.

E

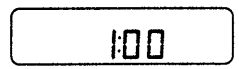
3

Setting the Clock

The clock has a 12-hour digital indication.

For example, setting it to 10:08

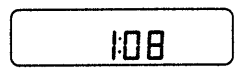
1 Turn on the unit by rotating the VOL control.



The display shows the clock.

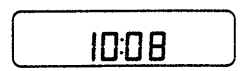
2 Press and hold the DSPL button.

Press the + side of the button to set the minute digits.

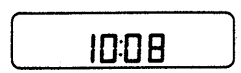


With the DSPL button pressed

Press the - side of the button to set the hour digits.



3 Release the DSPL button.

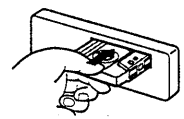


The clock activates.

Listening to Tape Playback

1 Turn on the unit by rotating the VOL control.

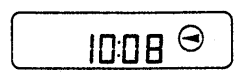
2 After inserting the cassette, playback will start automatically.



To change the tape direction,
press both the ◀◀ and the ▶▶ button at the same time.

Indication of Tape Transport Direction

The side facing up is being played.



The side facing down is being played.

Tape playback automatically changes direction at the end of the tape.

Note
Before turning off the unit, eject the tape to avoid tape damage.

E

This section is extracted from instruction manual.

Ejecting the Cassette

Press the ⏏ button to stop playback and eject the cassette.

Fast-winding the Tape

Direction indicator	To advance	To rewind
►		
◄		

To resume playback, press the other fast-winding button until the locked button is released.

Tuning in a Station

Searching for the Stations Automatically

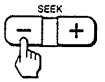
— Automatic Tuning

1 Turn on the unit by rotating the VOL control.

2 Select the desired band.

FM1 → FM2 → FM3 → AM1 → AM2 → FM1

3 Press either side of the SEEK button to search for the station (automatic tuning).

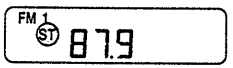


For lower frequencies

For higher frequencies

The scanning stops when a station is received. Press either side of the button repeatedly until the desired station is received.

When an FM stereo program with a sufficient signal strength is tuned in,



the "ST" indication will appear.

Tuning in by Adjusting the Frequency — Manual Tuning

1 Select the desired band.

2 Press and hold either side of the + − button.

Release the button when the desired station is received.

For lower frequencies

For higher frequencies

PREVENTING ACCIDENTS!

When tuning in during driving, use the automatic tuning or the preset number buttons instead of the manual tuning.

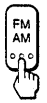
Memorizing Stations

Memorizing Stations Automatically

— Automatic Memory Function

This function selects from the currently received band six stations and memorizes them in order of their frequencies. If six strong stations cannot be found, it will search the band again looking for farther stations.

1 Select the desired band.



2 Use any tuning method to tune to a frequency slightly below that of the first station you want to memorize.

3 Press the M.SCAN/A.MEM button for more than two seconds.

The unit memorizes the station you selected and the next five stations with strong signals on the currently selected band.

Note

If a station you want to store has a weak signal or interference, it might not automatically be memorized.

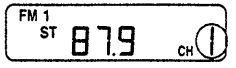
Memorizing Only the Desired Stations

1 Select the desired band.

2 Tune in the station which you wish to store on the preset number button.

3 Keep the desired preset number button (1 to 6) pressed for about two seconds until the volume briefly mutes.

The number of the pressed preset number button now appears on the display window.



Up to 6 stations on each band (FM1, FM2, FM3, AM1 and AM2) can be stored on the preset number buttons in order of your choice. Therefore, 18 stations can be memorized on FM.

If you try to store another station on the same preset number button, the previously stored station will be erased.

Receiving the Memorized Stations

1 Select the desired band.

2 Press momentarily the preset number button on which the desired station is stored.

Note

If you press the preset number button for more than two seconds, the currently received station will be memorized. To receive the previously memorized station, make sure that the preset number button is pressed only momentarily.

Checking What is Being Broadcast on the Preset Stations — Memory Scan Function

1 Select the desired band.

2 Press the M.SCAN/A.MEM button momentarily.

The memorized stations will be scanned for five seconds each in order.
(When the broadcast signal of a memorized station is too weak, it cannot be received.)

Note

Make sure that you press the M.SCAN/A.MEM button momentarily. If you press the M.SCAN/A.MEM button for more than two seconds, the button will function as the A.MEM (automatic memory) button, and the memories of the currently activated preset number button and of the succeeding preset number buttons will be altered.

Maintenance

Fuse Replacement

When replacing the fuse, be sure to use one with the correct amperage which is stated on the fuse case. Never use a fuse whose amperage rating exceeds the one supplied to the unit, as this could cause a malfunction of the unit.

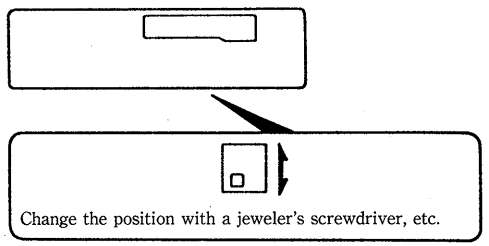
Warning
Use a fuse with the specified amperage.
Use of a fuse with higher amperage may cause serious damage.

Cleaning the Head and the Tape Path

Prolonged use may contaminate the tape head and the tape path. Contamination causes sound drop-outs during playback.
Clean the tape head and the tape path every two weeks to enjoy optimum hi-fi stereo sound. Use a commercially available cleaning cassette.

OUTPUT SELECT Switch

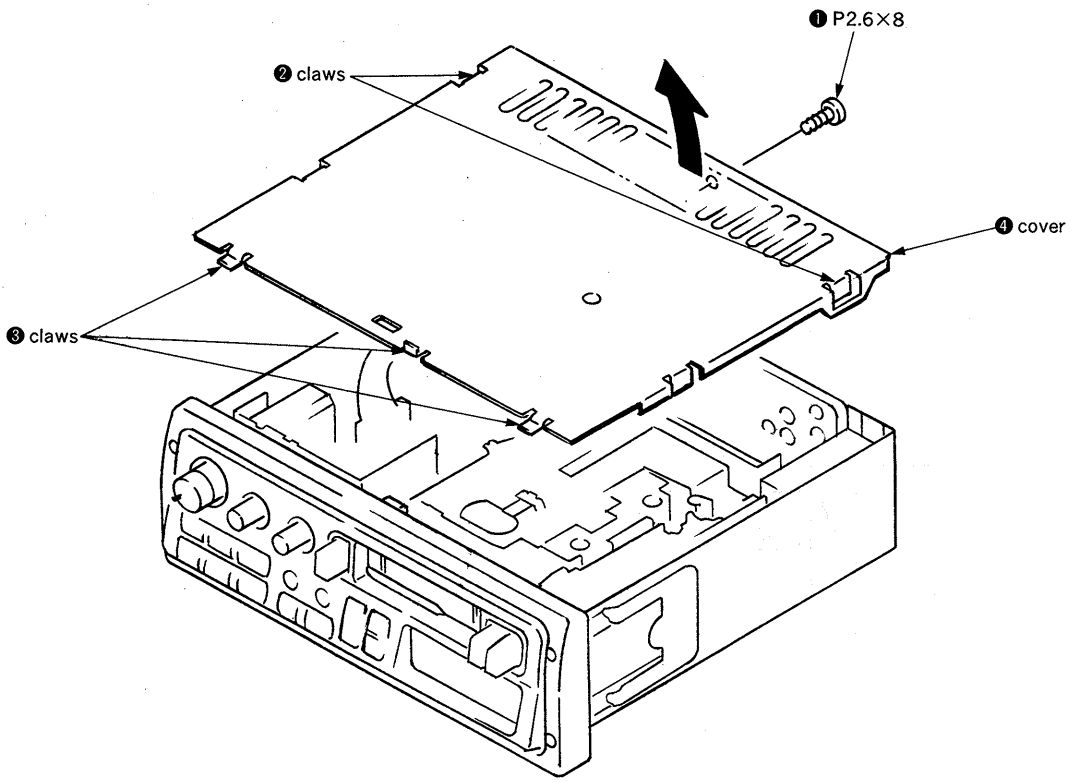
In case you connect a 4-speaker system, set the output switch on the bottom of the unit to "4ch" before you install the unit.
If you connect a 2-speaker system, set the output switch to "2ch" before installing the unit. (The switch of a new unit is factory-set to "2ch".)



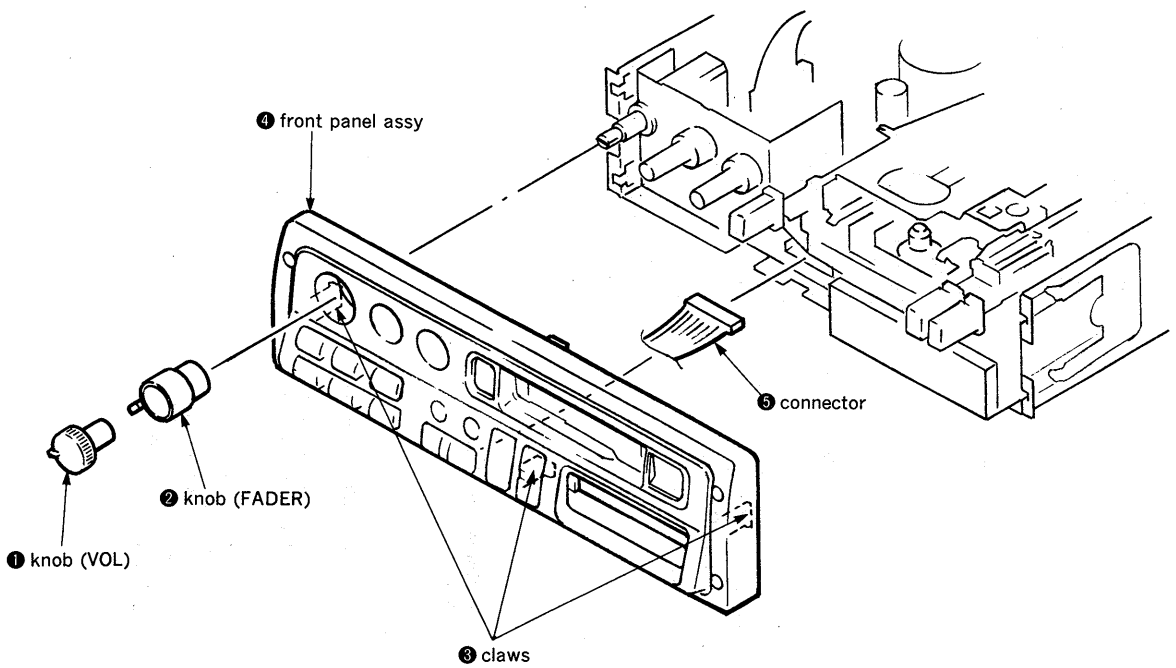
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

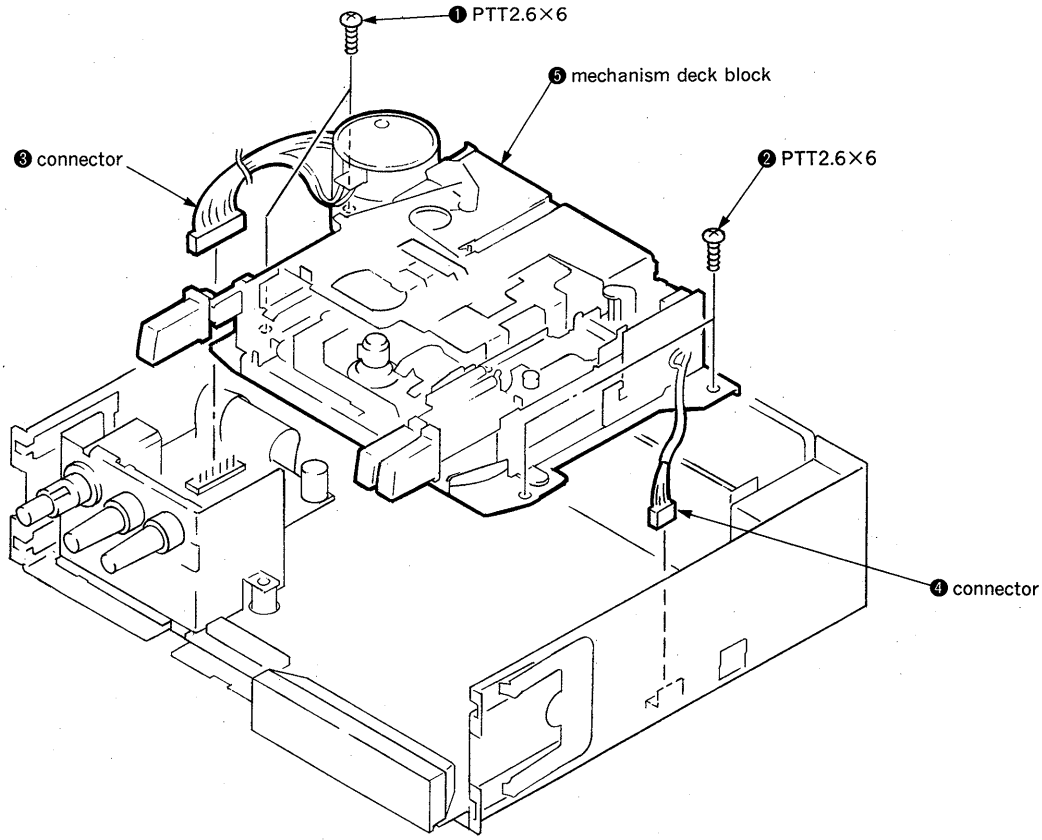
2-1. COVER



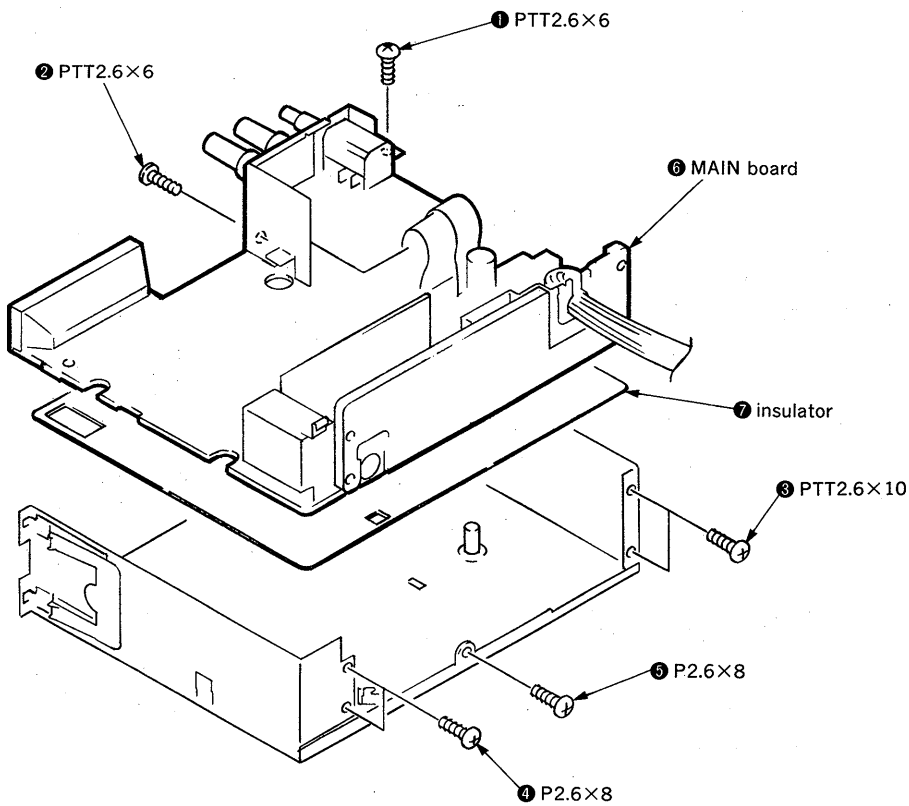
2-2. FRONT PANEL ASSY



2-3. MECHANISM DECK BLOCK



2-4. MAIN BOARD



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before aejustment:
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	40—75g•cm (0.56—1.04oz•inch)
FWD Back Tension		1—5g•cm (0.01—0.06oz•inch)
REV	CQ-102RC	40—75g•cm (0.56—1.04oz•inch)
REV Back Tension		1—5g•cm (0.01—0.06oz•inch)
FF, REW	CQ-201B	45—150g•cm (0.63—2.08oz•inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

DECK SECTION | **0dB=0.775V**

1. The adjustments should be performed in the order given in this service manual.
2. The adjustments should be performed for both L-CH and R-CH.

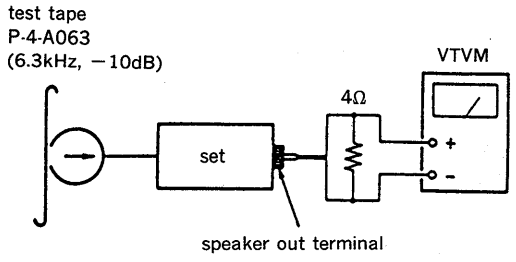
Test Tape

Type	Signal	Used for
P-4-A063	6.3kHz, −10dB	head azimuth adjustment
WS-48A	3kHz, 0dB	tape speed adjustment

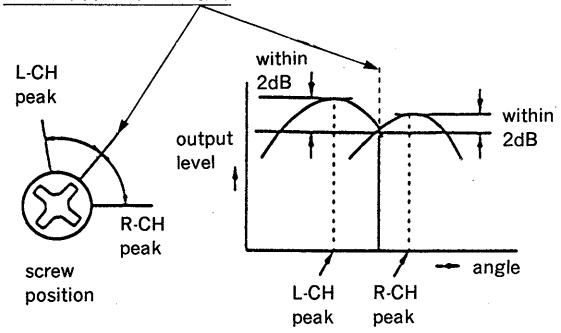
PB Head Azimuth Adjustment

Procedure:

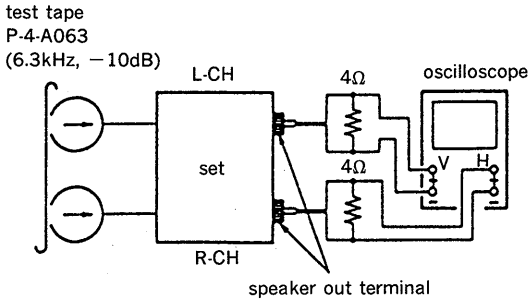
1. Mode: FWD playback

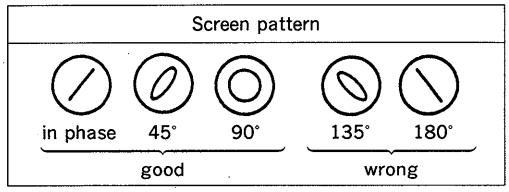


2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 2dB.



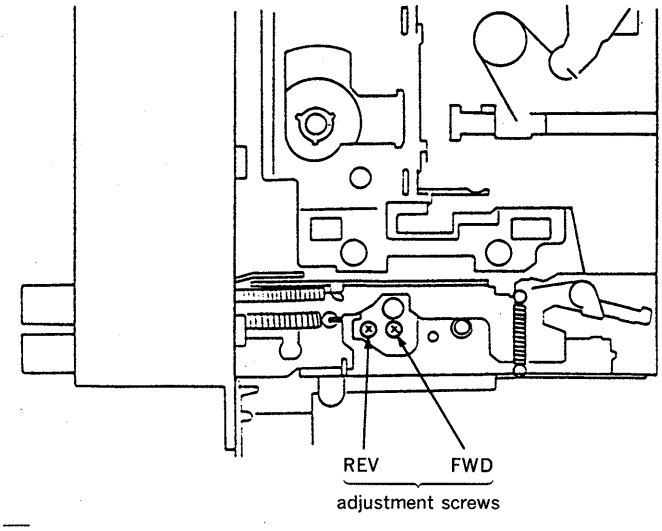
3. Check the phase in the PB mode.





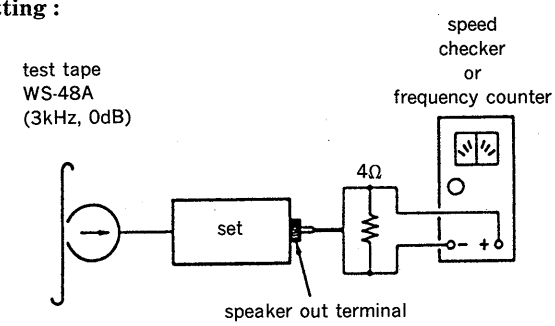
4. Repeat the above adjustment for the REV PB mode.

Adjustment Location:



Tape Speed Adjustment

Setting :



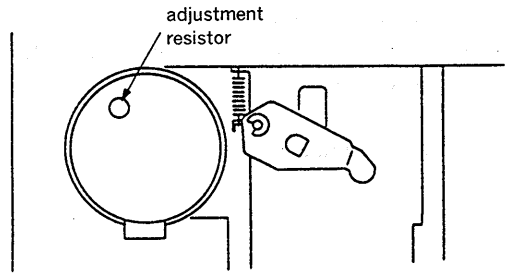
Procedure :

1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification : Constant speed

Speed checker	Frequency counter
−1.5 to +2.5%	2,955 to 3,075Hz

Adjustment Location :



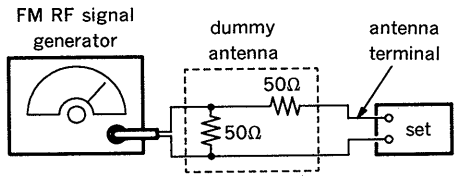
TUNER SECTION **0dB=1μV**

Cautions during repair
When the front end is defective, replace it by a new one because its internal block is difficult to repair.

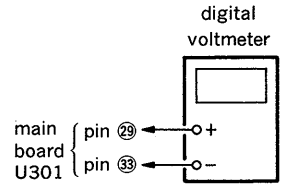
FM Detection Adjustment

Setting :

FM AM button : FM



Carrier frequency : 98.1MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : no modulation



Procedure :

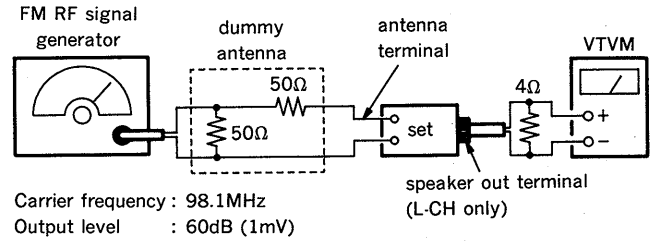
1. Connect a digital voltmeter between U301 pin ㉙ and pin ㉝ on the main board.
2. Adjust M303 so that the reading on the digital voltmeter becomes in 0±0.05V.

Adjustment Location : See page 11.

FM Stereo Separation Adjustment

Setting :

FM AM button : FM



Carrier frequency : 98.1MHz
Output level : 60dB (1mV)
Mode : stereo
Modulation : 1kHz, 75kHz deviation (100%)
(L-CH only)

Procedure :

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust R308 for maximum reading.

L-CH Stereo separation : Ⓐ—Ⓑ

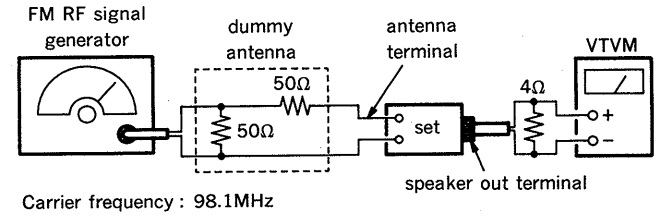
Specification : Separation more than 30dB

Adjustment Location : See page 11.

Pilot Cancellation Adjustment

Setting :

FM AM button : FM



Carrier frequency : 98.1MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : pilot : 7.5kHz deviation (10%)

Procedure :

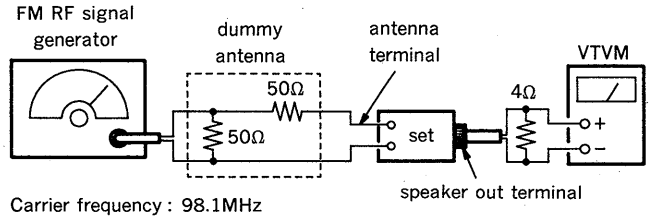
1. Adjust R306 so that the reading on the VTVM becomes in minimum and same pilot residue for both L-CH and R-CH.

Adjustment Location : See page 11.

10dB Crosstalk Adjustment

Setting :

FM AM button : FM



Carrier frequency : 98.1MHz
Output level : 40dB (0.1mV)
Mode : mono
Modulation : 7.5kHz pilot : 75kHz deviation (100%)

Procedure :

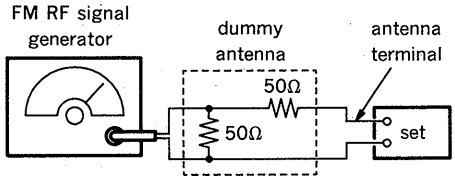
1. Adjust R300 so that the reading on the VTVM becomes in 10dB separation.

Adjustment Location : See page 11.

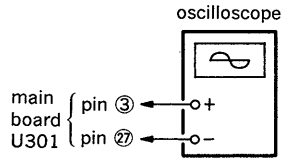
LOCAL Locking Sensitivity Adjustment

Setting :

FM AM button : FM



Carrier frequency : 98.1MHz
Output level : 42dB (125.9μV)
Mode : mono
Modulation : no modulation



Procedure :

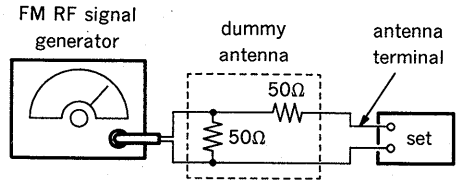
1. Connect a oscilloscope between U301 pin ③ and pin ㉗ on the main board.
2. Short the Q301 base to GND.
3. Adjust R322 so that IF signal should off, when 2dB signal is reduce.

Adjustment Location : See page 11.

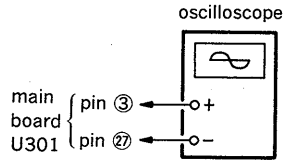
DX Locking Sensitivity Adjustment

Setting :

FM AM button : FM



Carrier frequency : 98.1MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : no modulation



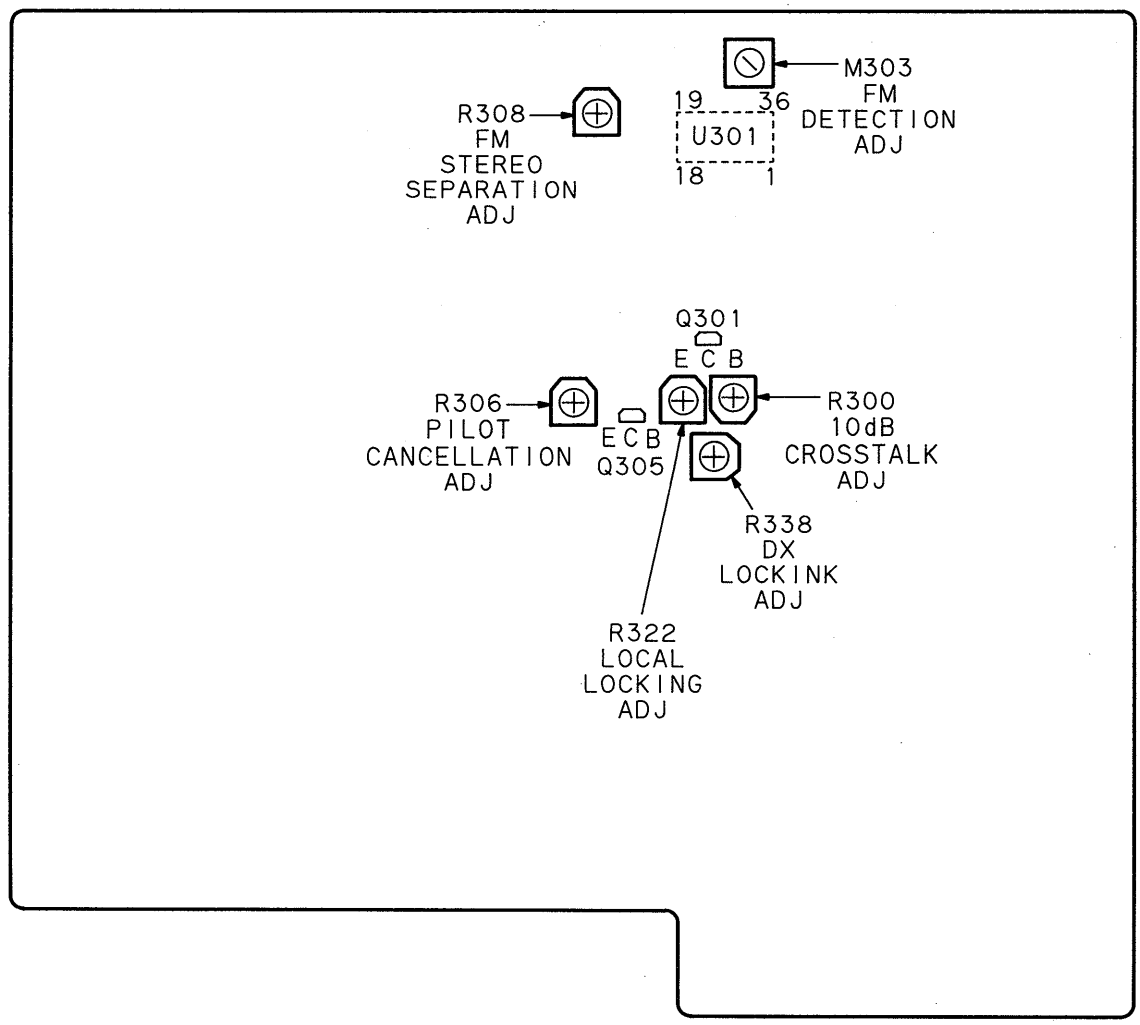
Procedure :

1. Short the Q305 base to GND.
2. Connect a oscilloscope between U301 pin ③ and pin ㉗.
3. Short the Q301 base to GND.
4. Adjust R338 so that IF signal should shut off, when 2dB signal is reduce.

Adjustment Location : See page 11.

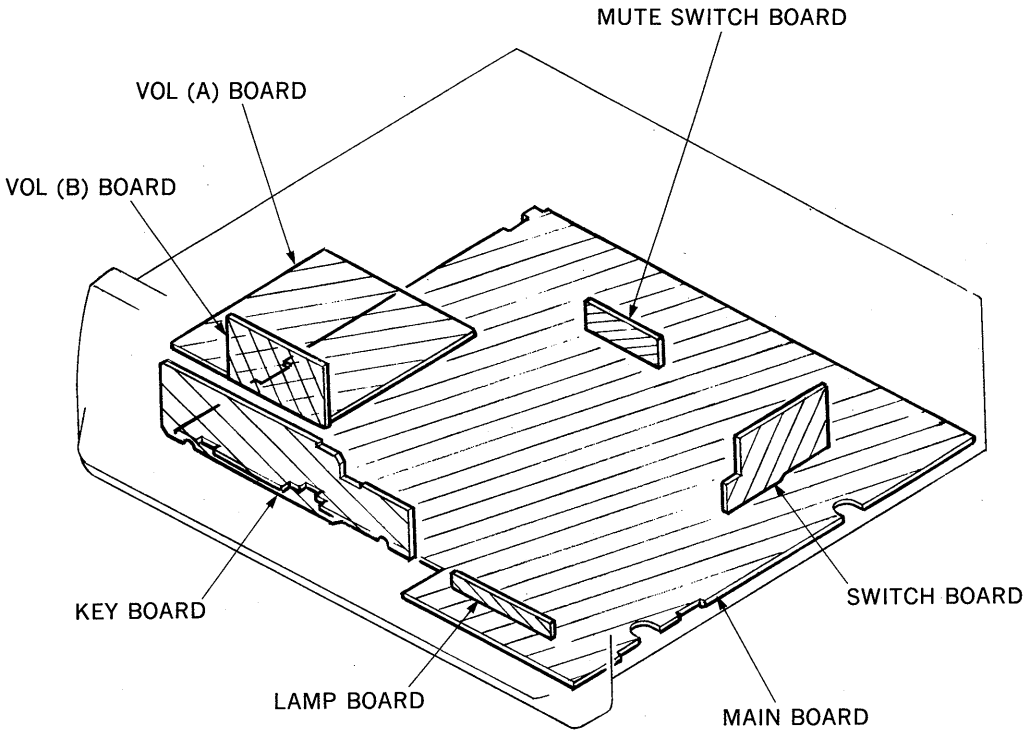
Adjustment Location

—main board (component side)—

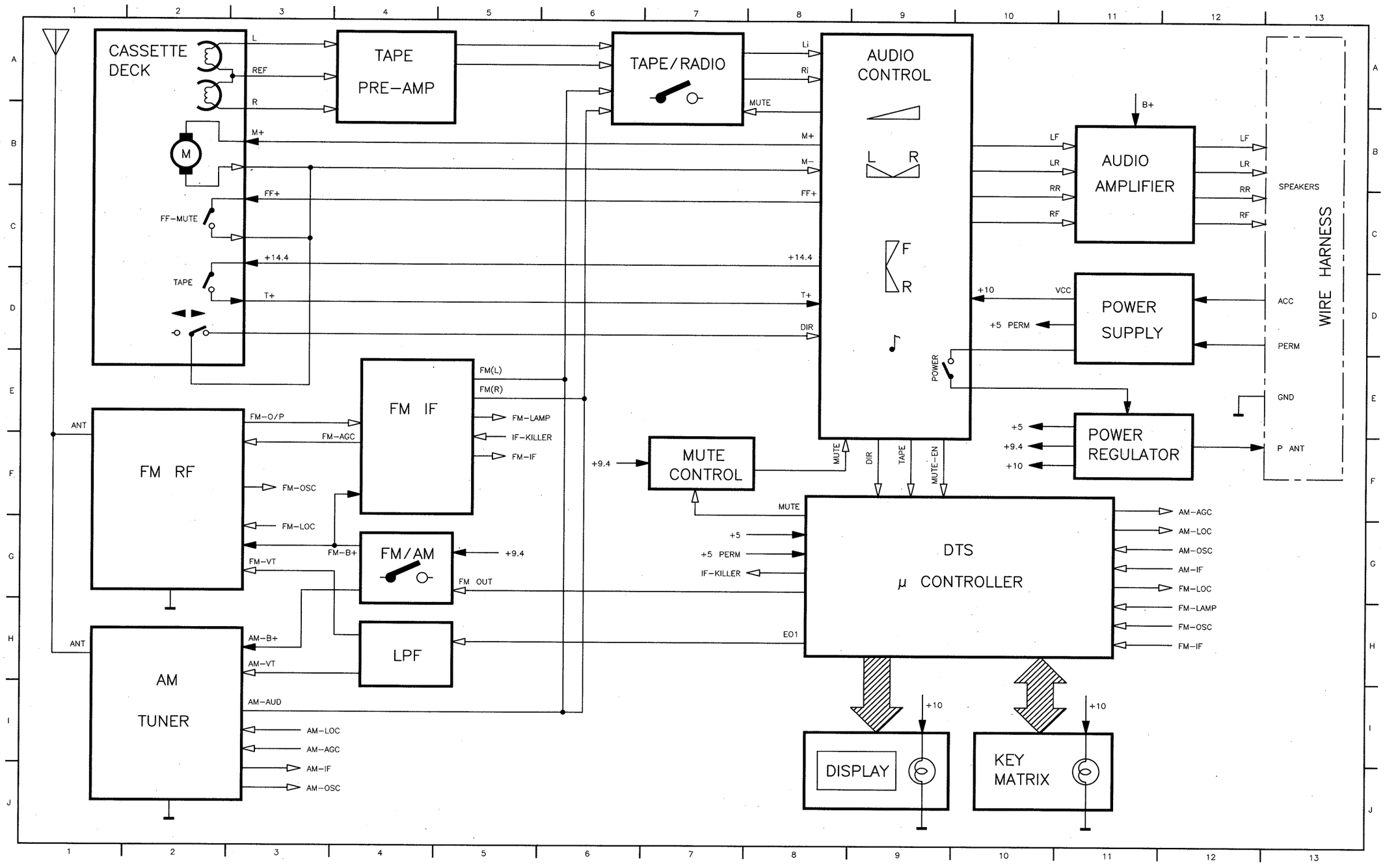


SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. BLOCK DIAGRAM



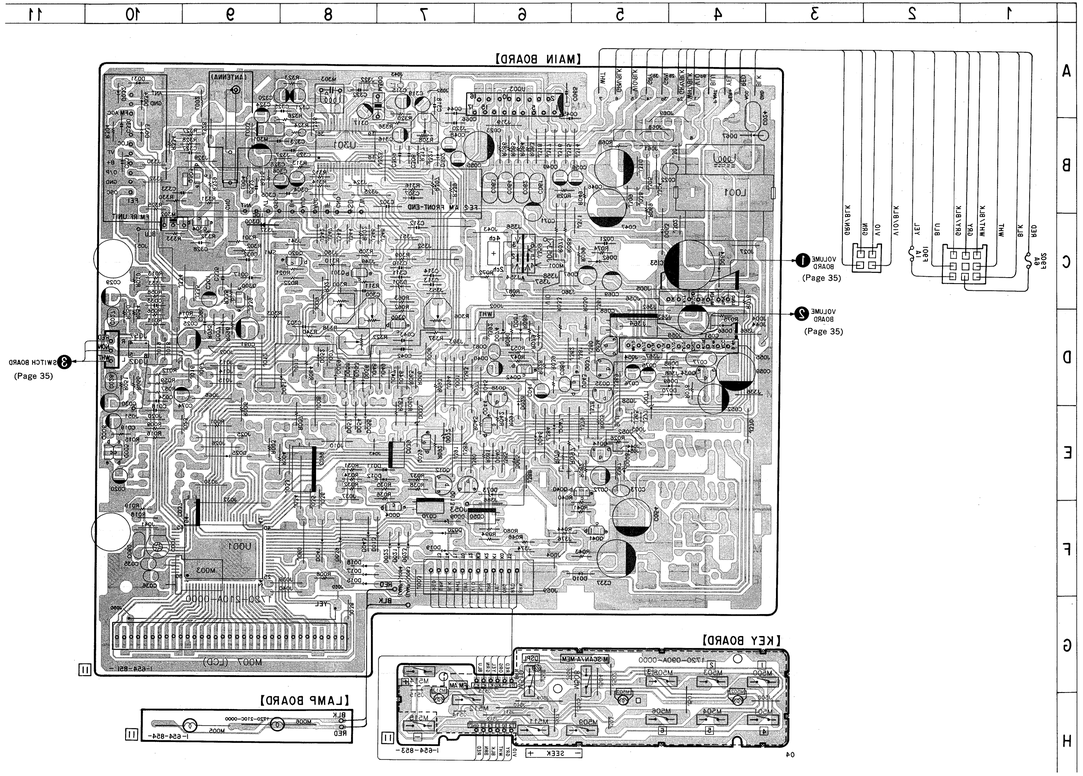
● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D3	E-7	D66	D-4
D7	D-9	D67	B-4
D8	E-5	D68	D-4
D9	F-7	D69	D-4
D10	F-5	D70	D-4
D11	E-7	D71	E-5
D12	E-7	D72	E-7
D13	F-7	D73	E-6
D15	F-8	D74	D-6
D17	F-8	D300	C-9
D18	F-8	D301	C-7
D19	F-7	D302	B-7
D20	F-7		
D21	F-7	Q4	F-7
D22	F-7	Q5	E-10
D23	F-7	Q6	E-10
D25	E-9	Q12	E-7
D28	E-6	Q13	E-7
D31	A-10	Q14	E-5
D32	A-10	Q20	C-8
D33	B-10	Q34	D-4
D34	A-10	Q35	D-5
D39	F-8	Q36	D-5
D40	E-6	Q37	D-5
D41	F-8	Q38	D-6
D43	F-8	Q39	E-7
D46	E-6	Q40	E-5
D47	E-6	Q41	F-5
D51	D-8	Q42	D-6
D52	D-8	Q43	D-5
D53	D-8	Q44	E-6
D54	E-8	Q300	C-9
D55	E-8	Q301	C-8
D56	D-8	Q303	B-9
D57	E-8	Q304	C-9
D58	D-8	Q305	D-7
D59	D-8		
D61	D-6	U1	F-9
D62	C-5	U2	D-10
D63	C-5	U3	A-6
D64	C-4	U301	B-8
D65	E-6		

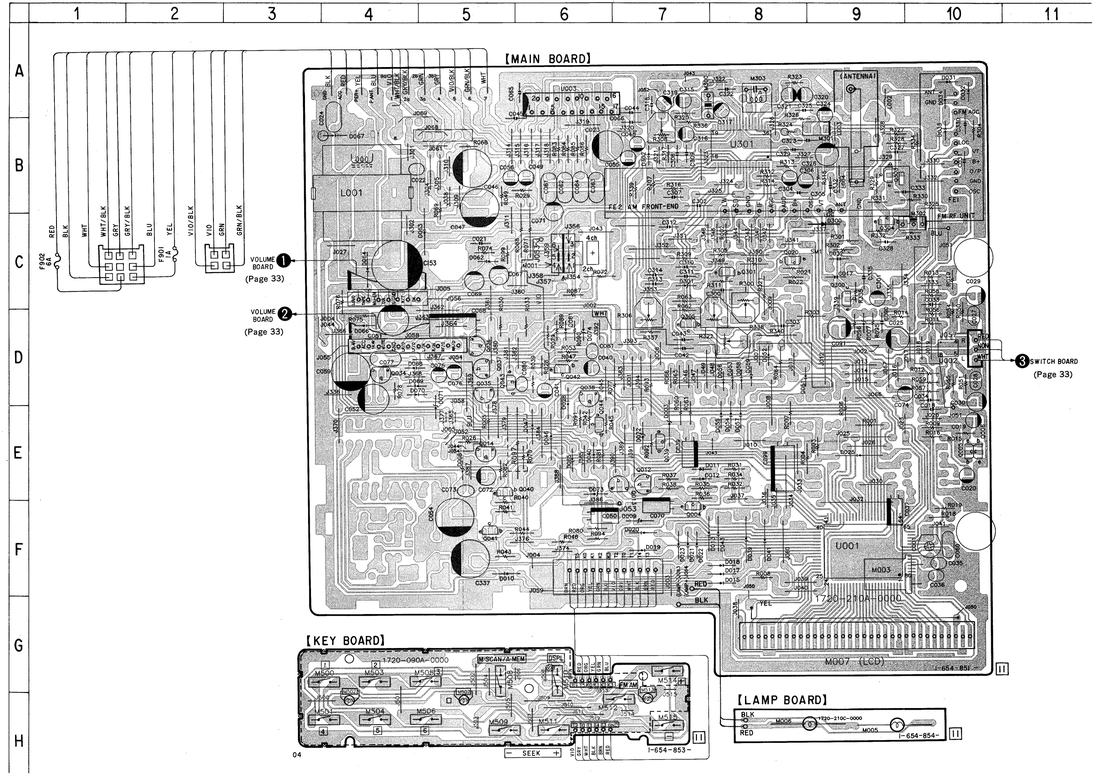
Note :
- ○— : parts extracted from the component side.
- —— : parts extracted from the conductor side.

5-3. PRINTED WIRING BOARS—MAIN SECTION— ● Refor to page 37 for Semiconductor Lead Layouts.

(Conductor Side) Note : Conductor side equal an inversion of component side.



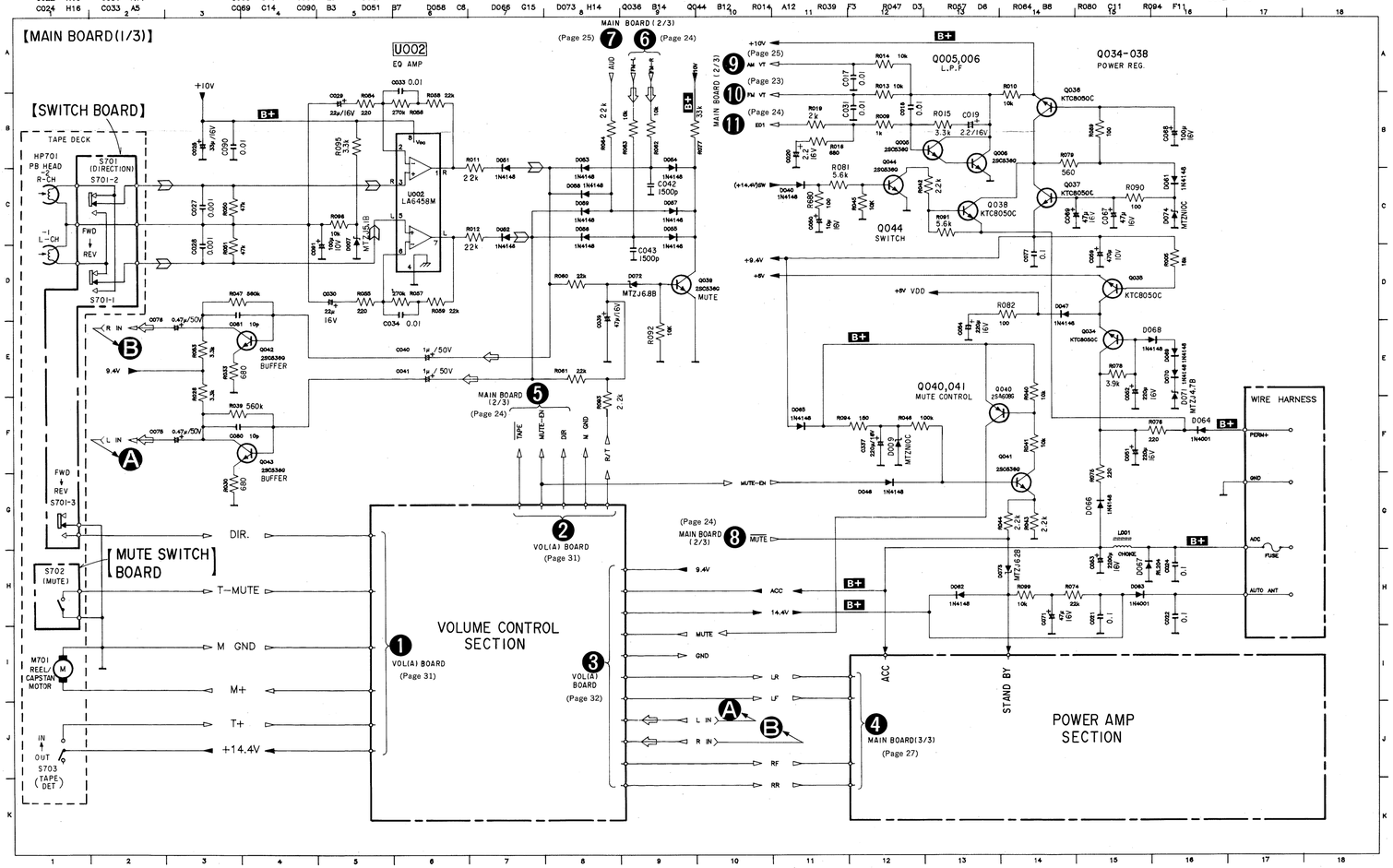
(Component Side)



5-4. SCHEMATIC DIAGRAM—MAIN SECTION (1/3)—

• Part Location

C017	B11	C025	B3	C034	E5	C052	F15	C071	I14	C091	D4	D052	C7	D059	C8	D067	H15	D074	C16	Q037	C14	R005	D16	R015	B13	R040	F14	R050	C3	R058	B6	R074	H14	R082	D13	R095	B5	D040	C11
C018	B12	C027	C3	C039	E8	C053	H15	C075	F2	C337	F12	D053	B8	D061	C16	D068	E15	L001	G15	Q039	D10	R009	B12	R016	B11	R041	F14	R051	D3	R059	D6	R075	G15	R089	B15	R096	C5	Q038	C13
C019	B13	C028	D3	C040	E6	C054	E13	C076	E2	D007	D5	D054	B9	D062	H13	D069	E16	Q005	B12	Q040	E13	R010	A14	R019	B11	R043	G14	R053	E3	R060	D8	R076	F15	R090	C15	R099	H14		
C020	C11	C029	B5	C041	E6	C059	D15	C077	D14	D009	F12	D055	C9	D063	H15	D070	E16	Q006	B13	Q041	F13	R011	B6	R028	F3	R044	G14	R054	B5	R061	E8	R077	B10	R091	C13	R042	C13		
C021	H15	C030	D5	C051	F15	C067	C15	C080	F3	D046	G12	D056	C8	D064	F16	D071	F16	Q034	E15	Q042	E4	R012	C6	R030	G3	R045	C12	R055	D5	R062	B9	R078	E15	R092	E9	R081	C11		
C022	H16	C031	A11			C068	B16	C081	E3	D047	D14	D057	C9	D065	F11	D072	D9	Q035	D15	Q043	F4	R013	A12	R033	E3	R046	F12	R056	B6	R063	B9	R079	B14	R093	F8	U002	C6		
C024	H16	C033	A5			C069	C14	C090	B3	D051	B7	D058	C8	D066	G15	D073	H14	Q036	B14	Q044	B12	R014	A12	R039	F3	R047	D3	R057	D6	R064	B8	R080	C11	R094	F11				



●Voltage Value List

Ref. No.
U2 (TAPE MODE)

Pin No.	Vdc
1	4.60
2	4.60
3	4.60
4	0
5	4.60
6	4.60
7	4.60
8	10.10

Ref. No.	E (Vdc)	C (Vdc)	B (Vdc)
Q005	0.60	1.08	1.07
Q006	0	1.08	0.60
Q034	5.00	11.20	5.60
Q035	5.00	5.00	5.60
Q036	10.10	14.10	11.00
Q037	9.60	14.10	10.30
Q039	2.00mV	10.30	2.00mV
Q040	13.30	0	13.30
Q041	2.10	2.20	13.30
Q042	1.10	4.40	1.80
Q043	1.10	4.40	1.80
Q044	11.30	2.20	13.30

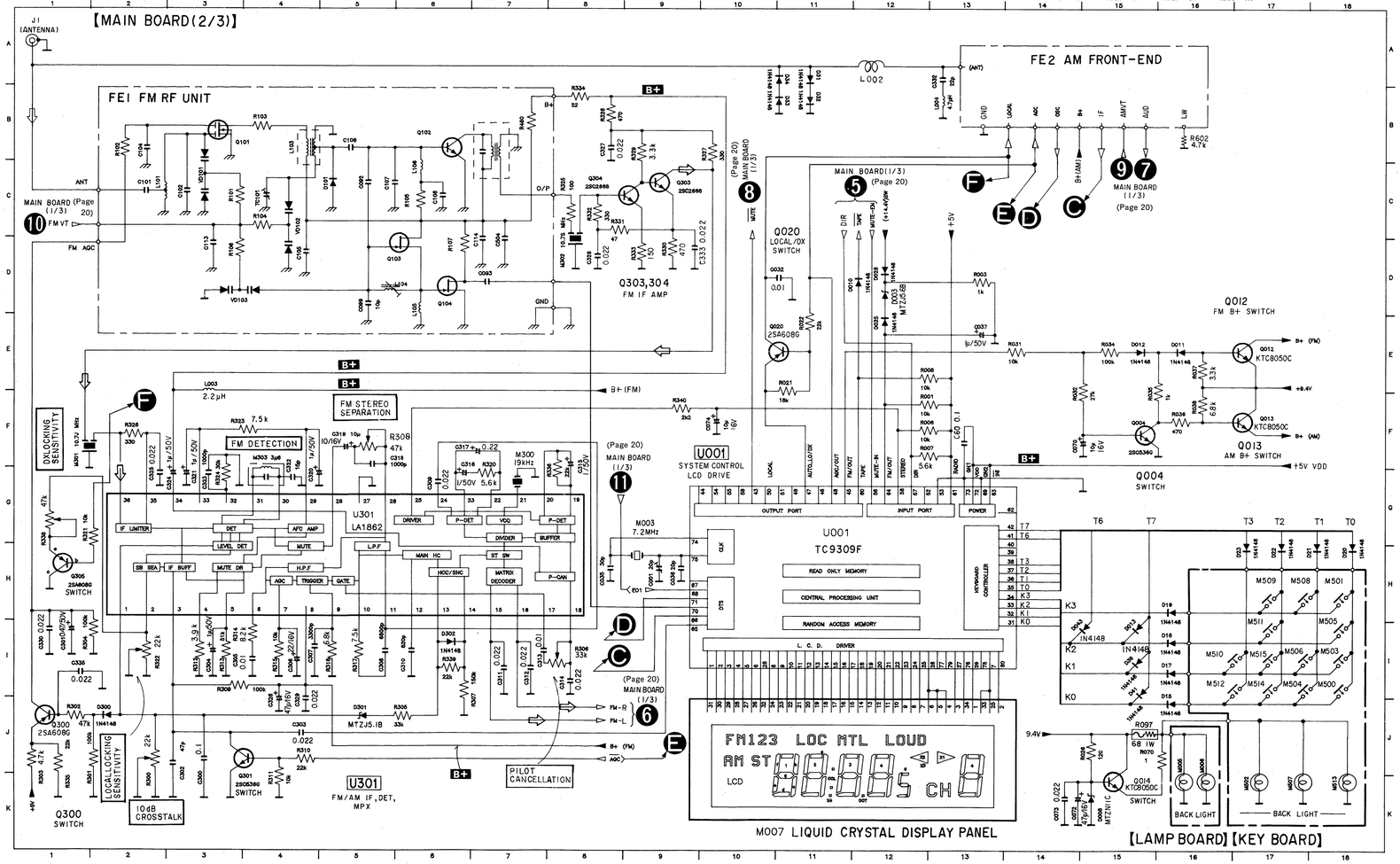
Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and PERM+ terminals.
- Voltage is dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : PB

5-5. SCHEMATIC DIAGRAM—MAIN SECTION (2/3)—

• Part Location

C001	H9	C073	K14	C105	D4	C302	K3	C310	I6	C316	F5	C326	J4	C504	D7	D17	I16	D028	D12	D075	F9	L101	C2	M301	G1	Q013	F17	Q301	K3	R008	E12	R036	F16	R104	C4	R304	I1	R312	I3	R322	I2	R330	D8	R339	I6	R340	F9
C032	D10	C074	F10	C106	B5	C303	J4	C311	I7	C319	F5	C327	B8	D003	D12	D18	I16	D32	A11	D100	C5	L104	D5	M302	D8	Q014	K15	Q303	C9	R021	E11	R038	F16	R105	C6	R305	J5	R313	I3	R323	F3	R331	C8	R480	B7	M007	K10
C035	H8	C092	C5	C107	C5	C304	I3	C312	I7	C320	G4	C328	D8	D008	K15	D19	H16	D32	B11	D300	J2	L105	E6	M303	F4	Q020	E10	Q304	C8	R022	E11	R070	J15	R106	D3	R306	I8	R314	I3	R324	G3	R332	C8	TC101	C4			
C036	H9	C093	D7	C108	C6	C305	I3	C313	I7	C321	G3	C329	J4	D010	D11	D20	H17	D33	B11	D301	J5	L106	C6	M502	K17	Q101	B3	Q305	H1	R026	J15	R107	D6	R307	J7	R315	I4	R325	C8	R333	D9	U301	G5			
C037	E13	C099	D5	C113	D3	C306	I4	C314	I8	C322	G4	C330	I1	D011	E16	D21	H17	D34	A11	D302	I6	M005	J16	M507	K17	Q102	B6	R001	F12	R031	E14	R097	J15	R300	K2	R308	I3	R316	I5	R326	F2	R334	B8	VD101	C3			
C060	F13	C101	C2	C114	D7	C307	I4	C315	G8	C323	G3	C332	B13	D012	E15	D22	H17	D39	I15	L002	A11	M006	J16	M513	K17	Q103	D5	R003	D13	R032	F14	R101	C3	R301	K2	R309	I3	R317	I5	R327	B10	R335	K1	VD102	C4			
C070	F14	C102	C3	C300	K3	C308	I5	C316	F6	C324	G3	C333	D9	D013	I15	D41	I15	L003	E3	M004	J16	M003	H8	Q004	F15	Q104	D6	R008	F12	R034	E15	R101	B2	R302	J1	R310	J4	R320	F7	R328	B8	R336	G8	VD103	D3			
C072	K14	C104	B2	C301	I1	C309	G6	C317	F8	C325	G2	C335	I1	D15	I16	D025	E12	D043	I14	L004	B13	M300	C7	Q012	E17	Q300	I1	R007	F12	R035	F15	R103	B4	R303	K1	R311	K4	R321	G1	R329	B9	R338	H1					



• Voltage Value List

Ref. No. U301

Pin No.	Vdc
1	4.10
2	2.0
3	0
4	1.40
5	0
6	2.80
7	0.40
8	9.60
9	0
10	4.80
11	4.80
12	2.80
13	1.0
14	0.98
15	3.00
16	3.00
17	4.80
18	10.00mV
19	3.40
20	3.40
21	3.70
22	8.00mV
23	3.40
24	4.80
25	4.60
26	4.80
27	0
28	4.00
29	4.80
30	3.90
31	3.90
32	2.00
33	4.80
34	3.40
35	3.70
36	3.70

Ref. No.	E (Vdc)	C (Vdc)	B (Vdc)
Q004	12.00mV	8.70	23.00mV
Q012 (FM MODE)	9.60	9.60	8.90
Q013 (AM MODE)	8.00	9.70	8.66
Q014	14.10	11.20	11.80
Q020	0.35	0.40	2.00
Q300	4.10	0.33	3.60
Q301	0	2.00mV	0.60
Q303	1.00	7.05	1.70
Q304	0.30	1.70	1.00
Q305	1.00	0	0.45

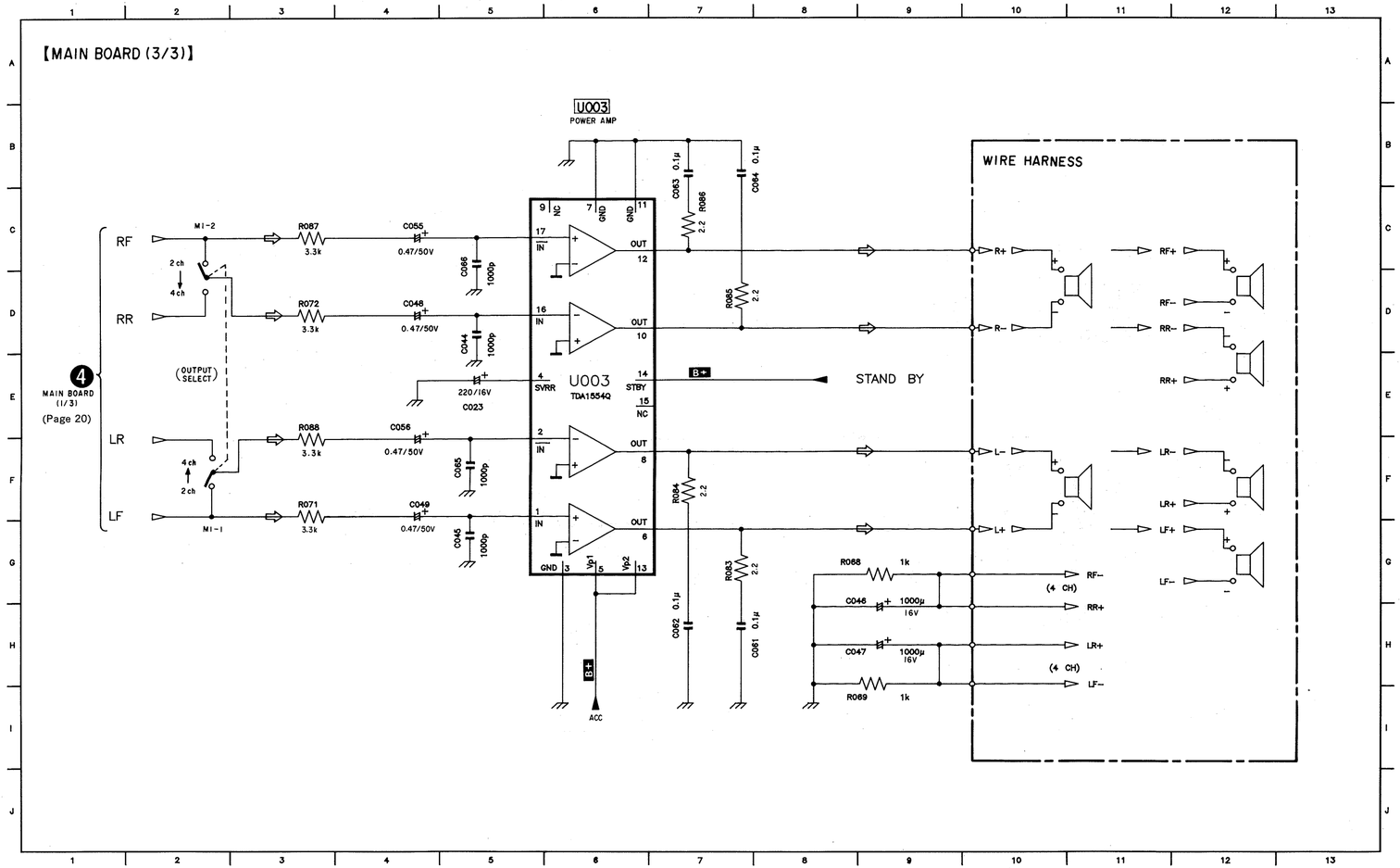
Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : fusible resistor.
- B+ : B+ Line
- : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and PERM+ terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path. : FM

5-6. SCHEMATIC DIAGRAM—MAIN SECTION (3/3)—

• **Part Location**

C023	E5	C046	H8	C049	F4	C061	H8	C064	C8	M001—aF2		R068	G8	R072	D3	R085	D7	R088	E3
C044	E5	C047	H8	C055	C4	C062	H7	C065	F5	M001—bD2		R069	I8	R083	G7	R086	C7	U003	E6
C045	G5	C048	D4	C056	E4	C063	C7	C066	D5	R029	G4	R071	F3	R084	F7	R087	C3		



• **Voltage Value List**

Ref. No.
U003

Pin No.	Vdc
1	2.20
2	2.20
3	0
4	6.90
5	14.20
6	6.90
7	0
8	6.90
9	6.90
10	6.90
11	0
12	6.90
13	14.20
14	8.80
15	0
16	2.20
17	2.20

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and PERM+ terminals.
- Voltage is dc with respect to ground under no-signal conditions.
- Signal path.
  ⇨ : FM

• Voltage Value List

Ref. No.	E (Vdc)	C (Vdc)	B (Vdc)
Q501	4.00mV	5.00mV	7.00mV
Q502	4.00mV	5.00mV	6.00mV
Q503	0.20	3.40	0.80
Q504	0.20	3.40	0.80
Q505	2.70	7.90	3.40
Q506	2.70	7.90	3.40
Q408 (TAPE MODE)	5.00	9.00mV	10.10mV
Q411 (TAPE MODE)	6.00mV	12.00mV	0.70

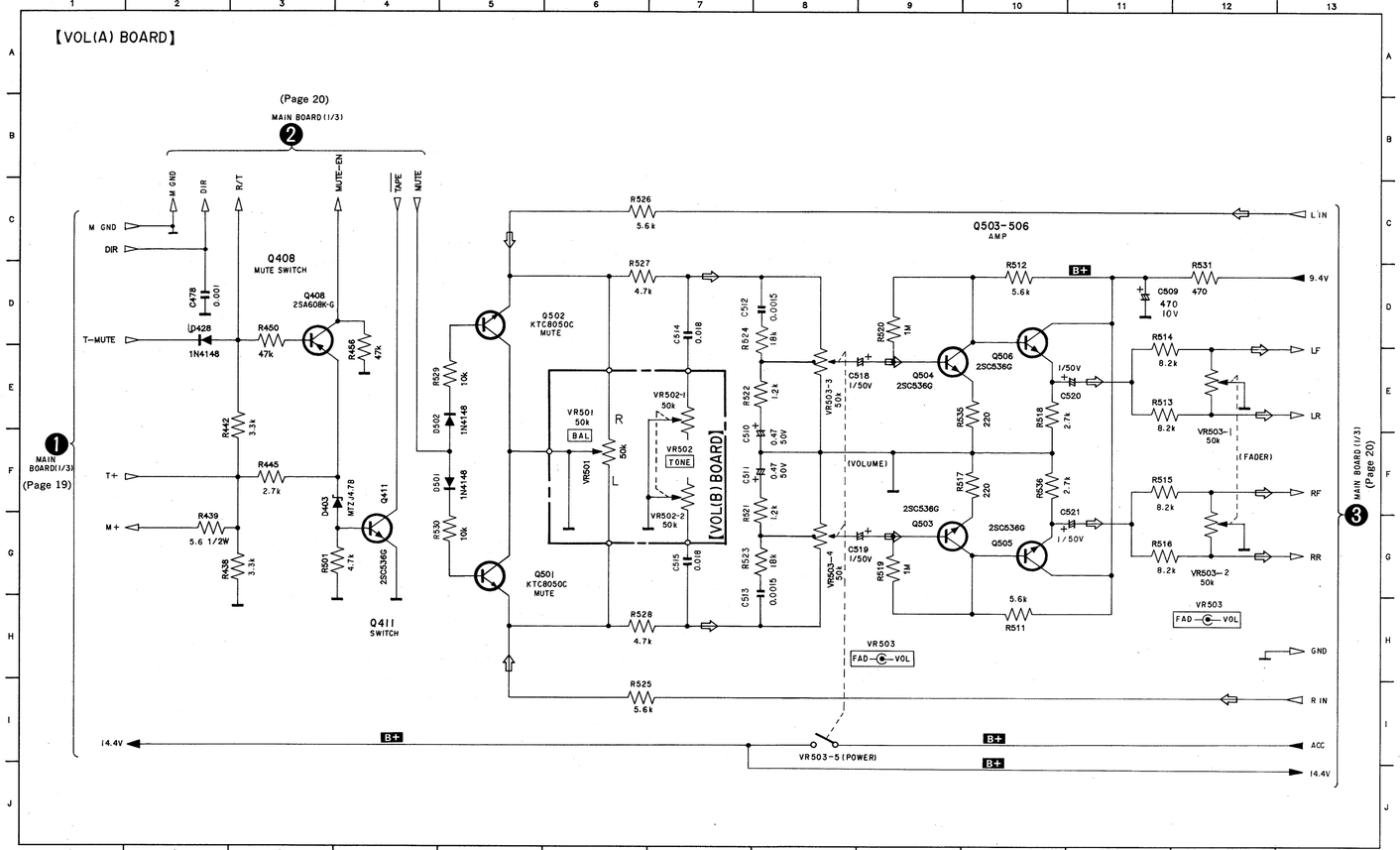
Note :

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and PERM+ terminals.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

5-7. SCHEMATIC DIAGRAM—VOLUME SECTION—

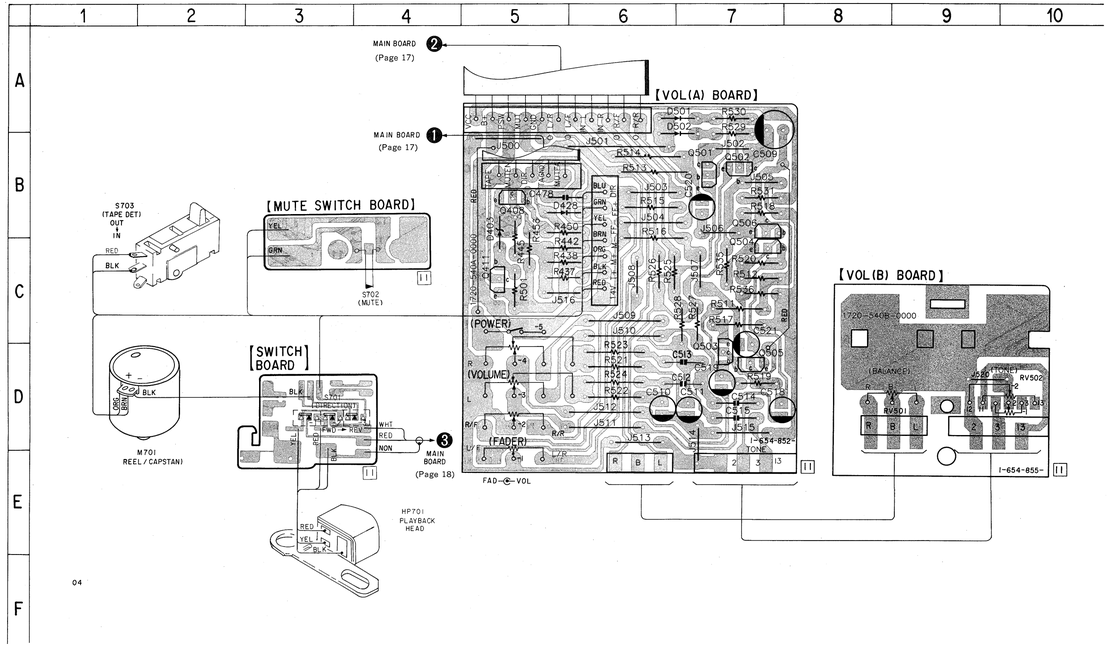
• **Part Location**

C478	D2	C513	D7	C520	E10	D502	F5	Q503	G9	R439	G2	R501	G3	R513	E11	R518	E10	R523	E7	R528	D6	R536	F10	VR503–dG12
C509	D11	C514	G7	C521	G10	Q408	D3	Q504	E9	R442	F2	R502–a	F7	R514	D11	R519	G9	R524	G7	R529	G5	VR501	F6	VR503–eH2
C510	F7	C515	E7	D403	G3	Q411	F4	Q505	G10	R445	F3	R502–b	G7	R515	F11	R520	D9	R525	C6	R530	E5	VR503–aE8		
C511	F7	C518	E8	D428	D2	Q501	D5	Q506	E10	R450	D3	R511	H10	R516	G11	R521	E7	R526	I6	R531	D12	VR503–bG8		
C512	H7	C519	G8	D501	F5	Q502	G5	R438	G2	R456	E4	R512	D10	R517	F10	R522	G7	R527	H6	R535	E10	VR503–cF12		

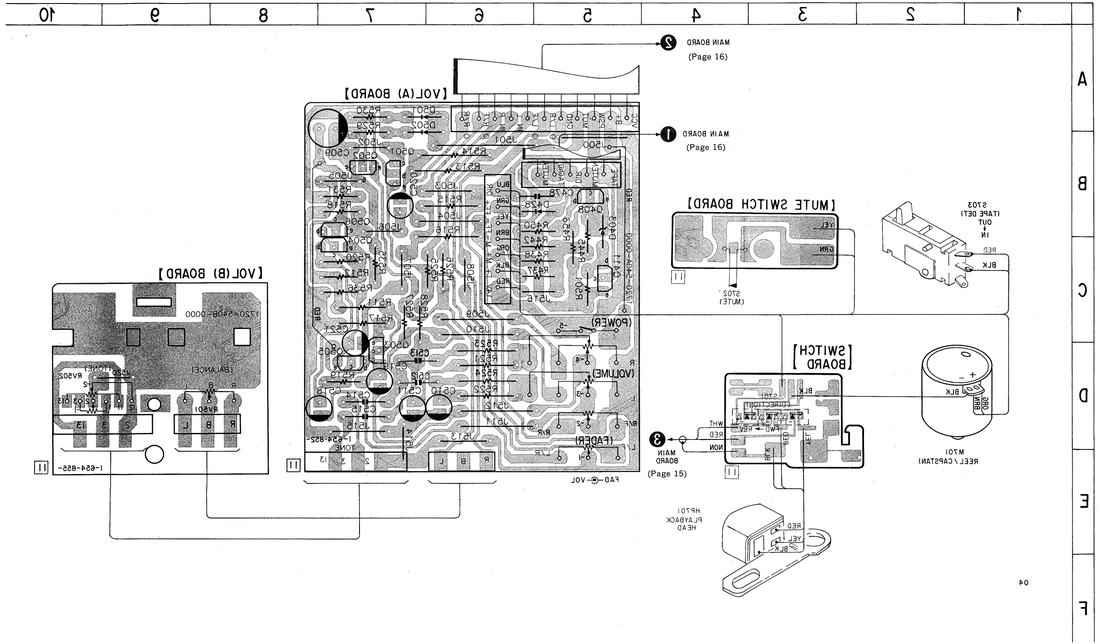


5-8. PRINTED WIRING BOARDS—VOLUME SECTION— • Refer to page 37 for Semiconductor Lead Layouts.

(Component Side)



(Conductor Side) Note: Conductor side equal an inversion of component side.



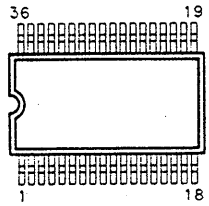
• Semiconductor Location

Ref. No.	Location
D403	B-5
D428	B-6
D501	A-7
D502	A-7
Q408	B-5
Q411	C-5
Q501	B-7
Q502	B-7
Q503	D-7
Q504	C-7
Q505	D-7
Q506	B-7

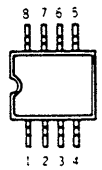
Note:
• ○— : parts extracted from the component side.
• —— : parts extracted from the conductor side.

5-9. SEMICONDUCTOR LEAD LAYOUTS

LA1862M

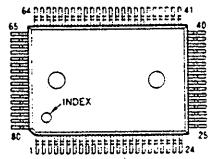


LA6458M



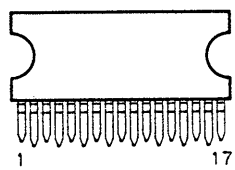
(TOP VIEW)

TC9309F

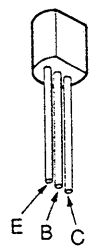


(TOP VIEW)

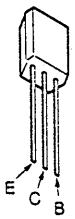
TDA1554Q



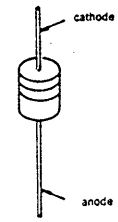
KTC8050C



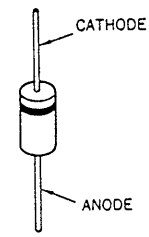
2SA608K-G
2SC536-G
2SC2668-O



MTZN-10C
RD5.1ESB2
RD5.6ESB2
RD6.2ESB2
RD6.8ESB2
RL204
UZ-4.7BSC



1N4148A
10E2

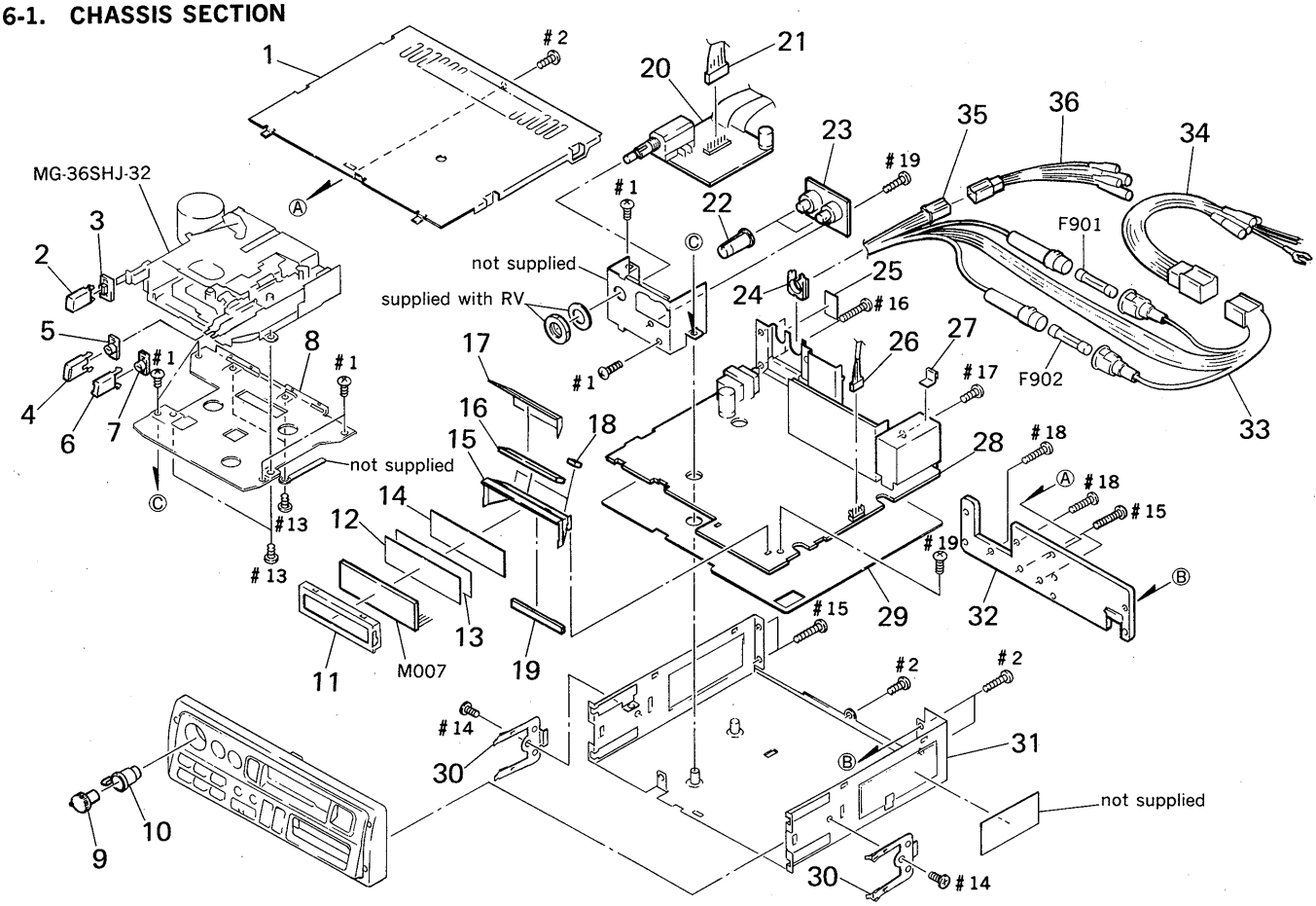


SECTION 6
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

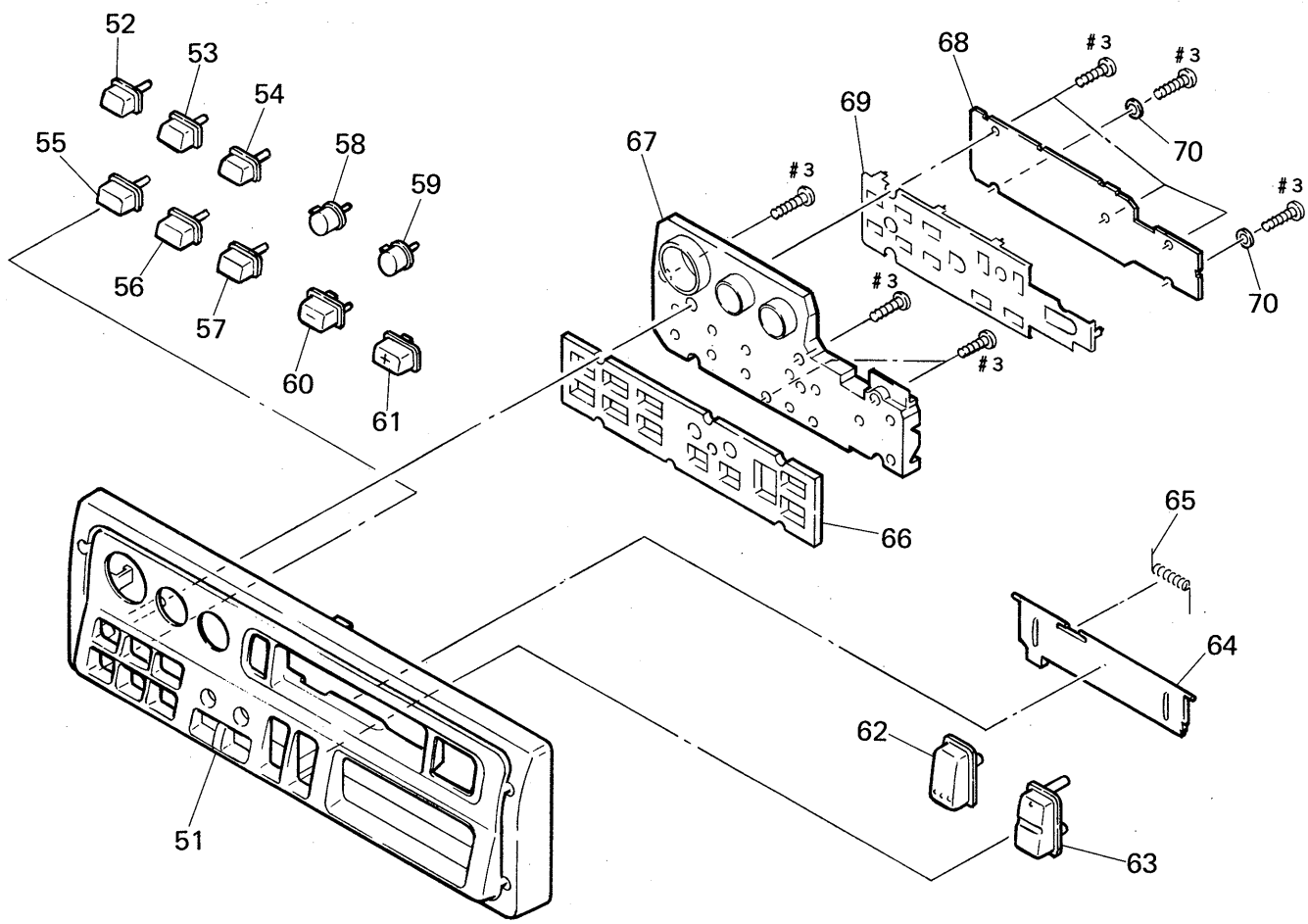
6-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	3-919-745-01	COVER	
2	3-919-748-01	BUTTON (EJECT)	
* 3	3-919-751-01	BRACKET (EJECT)	
4	3-919-747-01	BUTTON (REW)	
* 5	3-919-750-01	BRACKET (REW)	
6	3-919-746-01	BUTTON (FF)	
* 7	3-919-749-01	BRACKET (FF)	
* 8	3-919-755-01	BRACKET (MD)	
9	3-919-752-01	KNOB (VOL)	
10	3-919-753-01	KNOB (FADER)	
* 11	3-919-742-01	PLATE (LCD), GROUND	
* 12	3-920-950-01	SHEET (DIFFUSION)	
* 13	3-920-951-01	SHEET (YELLOW)	
* 14	3-920-952-01	SHEET (REFLECTION)	
* 15	3-919-741-01	HOLDER (LCD)	
* 16	3-919-743-01	CUSHION (LCD)	
* 17	3-919-989-01	COVER (LCD)	
* 18	3-920-953-01	CUSHION (LCD 2)	
* 19	1-654-854-11	LAMP BOARD	
* 20	1-654-852-11	VOL (A) BOARD	

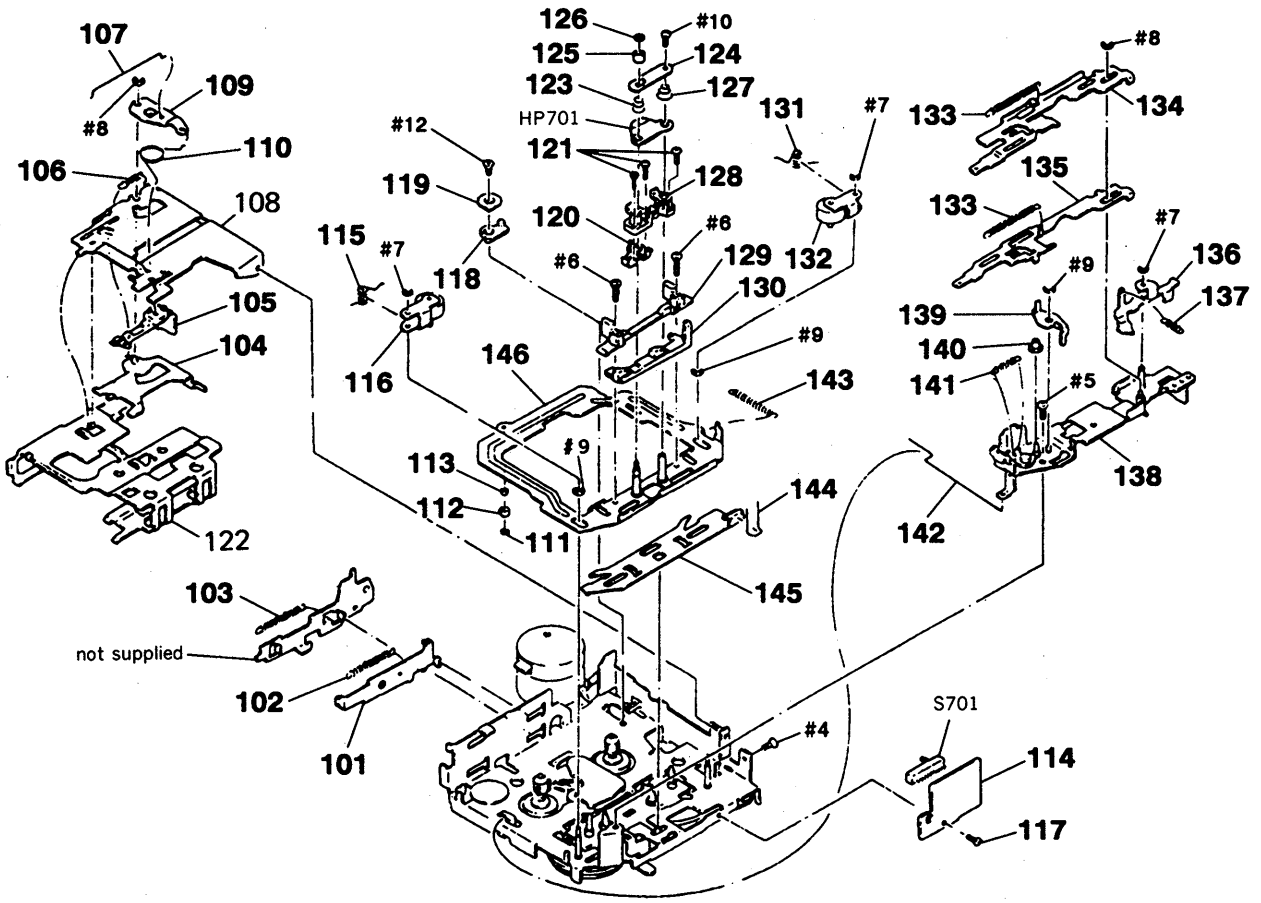
Ref. No.	Part No.	Description	Remark
21	1-769-262-11	CORD (WITH CONNECTOR) 7P	
22	3-919-754-01	KNOB (TONE)	
* 23	1-654-855-11	VOL (B) BOARD	
24	3-920-949-01	STOPPER (CORD)	
25	3-920-947-01	SHEET (IC)	
26	1-769-261-11	CORD (WITH CONNECTOR) 3P	
27	3-920-946-01	PLATE (TUNER), GROUND	
* 28	A-3298-406-A	MAIN BOARD, COMPLETE	
* 29	3-920-945-01	INSULATOR	
* 30	3-919-744-01	BRACKET (S)	
* 31	X-3369-517-1	CHASSIS ASSY	
* 32	3-919-728-01	HEAT SINK	
33	1-769-257-11	CORD (WITH CONNECTOR) (POWER A)	
34	1-769-259-11	CORD (WITH CONNECTOR) (POWER B)	
35	1-769-258-11	CORD (WITH CONNECTOR) (SPEAKER A)	
36	1-769-260-11	CORD (WITH CONNECTOR) (SPEAKER B)	
F901	1-532-360-XX	FUSE (1A/125V)	
F902	1-533-301-11	FUSE (6A/125V)	
M007	1-810-720-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-919-758-01	PANEL, FRONT	
52	3-919-759-01	BUTTON (1)	
53	3-919-760-01	BUTTON (2)	
54	3-919-761-01	BUTTON (3)	
55	3-919-762-01	BUTTON (4)	
56	3-919-763-01	BUTTON (5)	
57	3-919-764-01	BUTTON (6)	
58	3-919-765-01	BUTTON (A. MEM)	
59	3-919-766-01	BUTTON (DSPL)	
60	3-919-768-01	BUTTON (SEEK.-)	
61	3-919-767-01	BUTTON (SEEK.+)	
62	3-919-769-01	BUTTON (BAND)	
63	3-919-770-01	BUTTON (MANU)	
64	3-919-738-01	DOOR, CASSETTE	
65	3-919-739-01	SPRING (C DOOR)	
* 66	3-919-942-01	CUSHION (BUTTON)	
* 67	3-919-737-01	PLATE, LIGHT GUIDE	
* 68	1-654-853-11	KEY BOARD	
* 69	3-920-955-01	PLATE (KEY), GROUND	
70	3-920-954-01	WASHER	

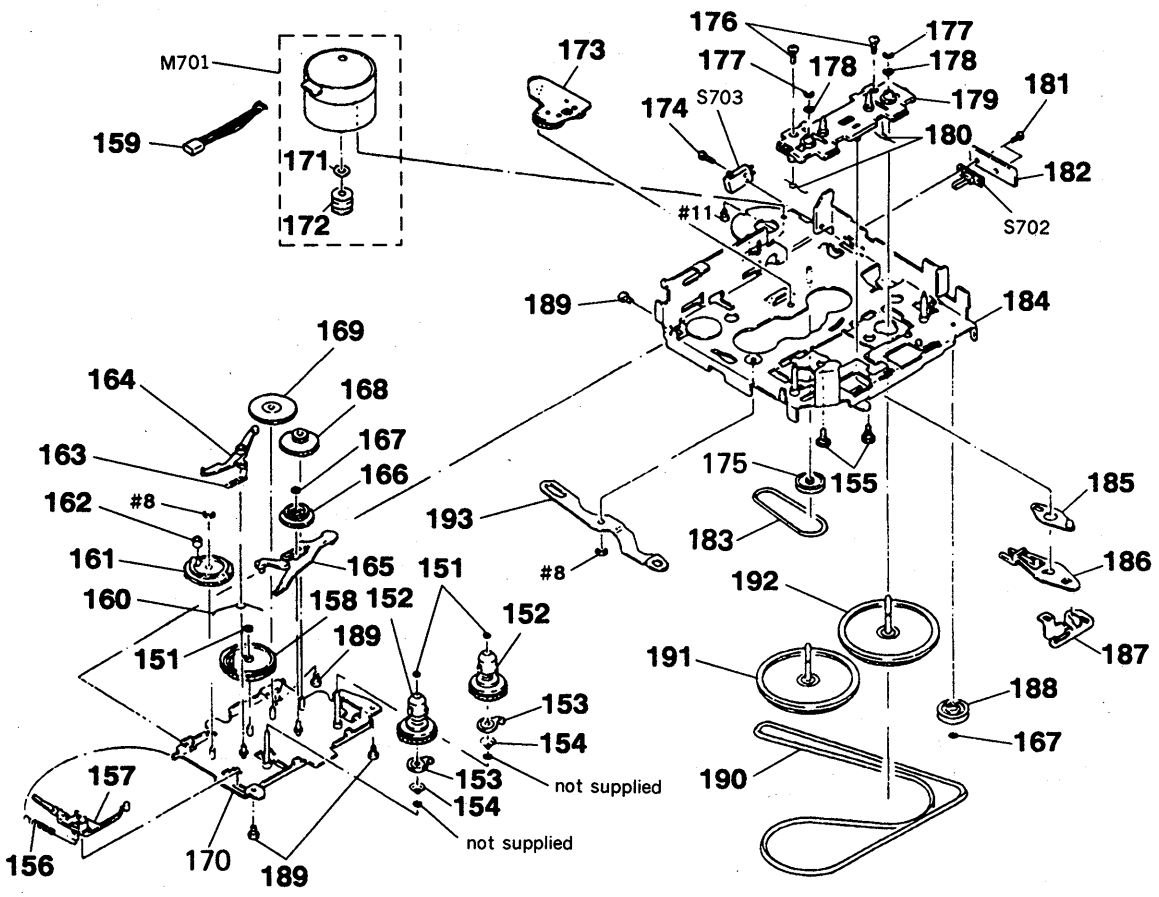
6-3. MECHANISM DECK SECTION 1 (MG-36SHJ-32)



Ref. No.	Part No.	Description	Remark
* 101	3-392-978-01	LEVER, EJECT	
102	3-392-950-01	SPRING	
103	3-392-951-01	SPRING	
* 104	3-392-921-01	LOCK ASSY, EJECT CAM	
105	3-392-972-01	HOOKER, TAPE	
106	3-392-953-01	SPRING	
107	3-392-969-01	LINK, RETURN	
108	3-375-383-01	HANGER (X), CASSETTE	
* 109	3-392-932-01	PLATE, CENTER	
110	3-392-961-01	SPRING (B)	
111	3-570-615-00	POLY-WASHER (DIA. 1.2)	
112	3-392-945-01	ROLLER (A), H.P	
113	3-392-942-01	ROLLER (B), H.P	
114	3-392-970-01	CHASSIS, SWITCH	
115	3-392-958-01	SPRING (R)	
116	3-375-378-01	ARM (R) ASSY, PINCH	
* 117	4-908-792-11	SCREW (B2X3), TAPPING, P1	
118	3-372-244-01	ARM (N), MUTE	
* 119	3-397-427-01	COLLAR, MUTE ARM	
120	3-377-908-01	SHIM (X), ADJUSTOR	
121	3-375-379-01	SCREW, AZIMUTH	
122	3-375-384-01	HOLDER (X), CASSETTE	
123	3-392-956-01	SPRING (A)	
* 124	3-392-930-01	RETAINER, SPRING	

Ref. No.	Part No.	Description	Remark
125	3-392-943-01	ROLLER, FF	
126	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
127	3-392-955-01	SPRING (A)	
* 128	3-379-142-01	ARM (B), ADJUSTOR	
129	3-392-984-02	GUIDE, TAPE	
130	3-377-909-02	LINK (X), ADJUSTOR	
131	3-392-957-01	SPRING (F)	
132	3-375-377-01	ARM (F) ASSY, PINCH	
133	3-392-948-01	SPRING	
* 134	3-392-980-01	LEVER, FF	
* 135	3-392-981-01	LEVER, REW	
* 136	3-392-935-01	ARM, LOCK	
137	3-392-917-01	SPRING	
* 138	3-372-242-01	BRACKET ASSY (D), LEVER	
* 139	3-392-933-01	LEVER (B), CHANGE	
140	3-392-994-01	ROLLER, PROGRAM	
141	3-392-954-01	SPRING	
142	3-372-243-01	LINK (B), SELECTOR	
143	3-392-952-01	SPRING	
144	3-392-962-01	SPRING	
* 145	3-392-919-01	ARM ASSY, F, R SELECTION	
* 146	3-392-975-05	PLATE ASSY (S), HEAD	
HP701	1-543-717-11	HEAD, MAGNETIC (PLAYBACK)	
S701	1-692-502-11	SWITCH, SLIDE (DIRECTION)	

6-4. MECHANISM DECK SECTION 2 (MG-36SHJ-32)



Ref. No.	Part No.	Description	Remark
151	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
152	3-376-196-01	SPINDLE ASSY (S), REEL	
153	3-375-380-01	CAM ASSY, DETECTION	
154	3-370-619-01	SPRING, BACK TENSION	
155	3-392-918-01	SCREW, EJECT HOOK	
156	3-392-959-01	SPRING	
157	3-392-985-02	RATCHET	
158	3-392-990-01	GEAR, DETECTION	
* 159	3-376-195-01	CONNECTOR ASSY (3P)	
160	3-392-960-01	SPRING	
161	3-392-987-01	GEAR, SELECTOR	
162	3-392-944-01	COLLAR (CELECTER GEAR)	
163	3-375-131-01	SPRING, GEAR LOCK ARM	
164	3-392-989-02	ARM, GEAR LOCK	
165	3-392-986-01	ARM, SENSOR	
166	3-392-915-01	GEAR, IDLE	
167	3-570-615-00	POLY-WASHER (DIA. 1.2)	
168	3-392-936-01	GEAR (A)	
169	3-392-937-01	GEAR (B)	
* 170	3-392-976-01	BASE ASSY, REEL	
* 171	3-392-912-01	WASHER, MYLAR	
* 172	3-392-913-01	PULLEY, MOTOR	
173	3-392-916-01	ARM ASSY, TU GEAR	

Ref. No.	Part No.	Description	Remark
174	3-318-203-11	SCREW (B1.7X6), TAPPING	
175	3-392-938-01	GEAR, PULLY	
176	3-318-204-81	SCREW (M1.7X3), TAPPING	
177	3-590-768-00	RING (A), E	
178	3-701-437-11	POLY-SLIDER (A)	
* 179	3-375-381-01	BRACKET ASSY (X), CM	
180	3-392-963-01	SPRING (R)	
181	3-318-204-91	SCREW (M1.7X4), TAPPING	
182	3-375-376-01	MUTE (PWB)	
183	3-375-375-02	BELT (C), SUB	
* 184	3-392-974-01	CHASSIS ASSY, MAIN	
* 185	3-392-925-01	ARM (A) ASSY, F.R	
* 186	3-392-939-01	ARM, FF	
* 187	3-392-934-01	ARM (B), F.R	
188	3-392-941-01	PULLEY (A), IDLE	
* 189	4-908-792-11	SCREW (B2X3), TAPPING, P1	
190	3-392-967-01	BELT, MAIN	
191	3-392-995-02	FLYWHEEL ASSY (BR)	
192	3-392-926-02	FLYWHEEL ASSY (BF)	
* 193	3-392-979-01	LEVER, REVERSE	
M701	X-3364-496-1	MOTOR ASSY	
S702	1-692-065-11	SWITCH, LEAF (MUTE)	
S703	1-554-790-21	SWITCH, POWER (TAPE DET)	

KEY LAMP MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description	Remark
*	1-654-853-11	KEY BOARD	
		*********	
		< SWITCH >	
M500	1-570-204-41	SWITCH, KEY BOARD (1)	
M501	1-570-204-41	SWITCH, KEY BOARD (4)	
M503	1-570-204-41	SWITCH, KEY BOARD (2)	
M504	1-570-204-41	SWITCH, KEY BOARD (5)	
M505	1-570-204-41	SWITCH, KEY BOARD (3)	
M506	1-570-204-41	SWITCH, KEY BOARD (6)	
M508	1-570-204-41	SWITCH, KEY BOARD (M.SCAN/A.MEM)	
M509	1-570-204-41	SWITCH, KEY BOARD (SEEK -)	
M510	1-570-204-41	SWITCH, KEY BOARD (DSPL)	
M511	1-570-204-41	SWITCH, KEY BOARD (SEEK +)	
M512	1-570-204-41	SWITCH, KEY BOARD (FM AM)	
M514	1-570-204-41	SWITCH, KEY BOARD (+)	
M515	1-570-204-41	SWITCH, KEY BOARD (-)	
		< LAMP >	
M502	1-517-375-11	LAMP, PILOT	
M507	1-517-375-11	LAMP, PILOT	
M513	1-517-375-11	LAMP, PILOT	
**********			
*	1-654-854-11	LAMP BOARD	
		**********	
		< LAMP >	
M5	1-517-376-11	LAMP, PILOT	
M6	1-517-376-11	LAMP, PILOT	
**********			

Ref.No.	Part No.	Description			Remark
*	A-3298-406-A	MAIN BOARD, COMPLETE			
		**********			
	1-769-263-11	CORD (WITH CONNECTOR) 12P			
	1-769-264-11	CABLE, FLAT 5P			
	1-769-265-11	CABLE, FLAT 11P			
*	3-919-987-01	BRACKET (COIL A)			
*	3-919-988-01	BRACKET (COIL B)			
*	3-919-989-01	COVER (LCD)			
		< TRIMMER >			
C1	1-141-276-00	CAP, TRIMMER			
		< CAPACITOR >			
C17	1-161-379-00	CERAMIC	0.01uF	20%	25V
C18	1-161-379-00	CERAMIC	0.01uF	20%	25V
C19	1-131-349-00	TANTALUM	2.2uF	10%	35V
C20	1-131-349-00	TANTALUM	2.2uF	10%	35V
C21	1-161-772-11	CERAMIC	0.1uF	10%	25V
C22	1-161-772-11	CERAMIC	0.1uF	10%	25V
C23	1-126-934-11	ELECT	220uF	20%	16V
C24	1-161-772-11	CERAMIC	0.1uF	10%	25V
C25	1-124-242-00	ELECT	33uF	20%	25V
C27	1-108-792-11	MYLAR	0.001uF	5%	50V
C28	1-108-792-11	MYLAR	0.001uF	5%	50V
C29	1-124-234-00	ELECT	22uF	20%	16V
C30	1-124-234-00	ELECT	22uF	20%	16V
C31-34					
	1-161-379-00	CERAMIC	0.01uF	20%	25V
C35	1-102-962-00	CERAMIC	30PF	5%	50V
C36	1-102-958-00	CERAMIC	20PF	5%	50V
C37	1-126-301-11	ELECT	1uF	20%	50V
C39	1-124-589-11	ELECT	47uF	20%	16V
C40	1-126-301-11	ELECT	1uF	20%	50V
C41	1-126-301-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description			Remark
C42	1-161-053-00	CERAMIC	0.015uF	10%	50V
C43	1-161-053-00	CERAMIC	0.015uF	10%	50V
C44	1-162-294-31	CERAMIC	0.001uF	10%	50V
C45	1-162-294-31	CERAMIC	0.001uF	10%	50V
C46	1-126-952-11	ELECT	1000uF	20%	16V
C47	1-126-952-11	ELECT	1000uF	20%	16V
C48	1-126-159-11	ELECT	0.47uF	20%	50V
C49	1-126-159-11	ELECT	0.47uF	20%	50V
C50	1-126-157-11	ELECT	10uF	20%	16V
C51	1-126-934-11	ELECT	220uF	20%	16V
C52	1-126-934-11	ELECT	220uF	20%	16V
C53	1-126-768-11	ELECT	2200uF	20%	16V
C54	1-126-934-11	ELECT	220uF	20%	16V
C55	1-126-159-11	ELECT	0.47uF	20%	50V
C56	1-126-159-11	ELECT	0.47uF	20%	50V
C59	1-126-925-11	ELECT	470uF	20%	10V
C60	1-161-772-11	CERAMIC	0.1uF	10%	25V
C61-64	1-108-816-11	MYLAR	0.1uF	5%	50V
C65	1-162-294-31	CERAMIC	0.001uF	10%	50V
C66	1-162-294-31	CERAMIC	0.001uF	10%	50V
C67	1-124-589-11	ELECT	47uF	20%	16V
C68	1-126-933-11	ELECT	100uF	20%	16V
C69	1-124-589-11	ELECT	47uF	20%	16V
C70	1-126-157-11	ELECT	10uF	20%	16V
C71	1-124-589-11	ELECT	47uF	20%	16V
C72	1-124-589-11	ELECT	47uF	20%	16V
C73	1-161-494-00	CERAMIC	0.022uF		25V
C74	1-126-157-11	ELECT	10uF	20%	16V
C75	1-126-159-11	ELECT	0.47uF	20%	50V
C76	1-126-159-11	ELECT	0.47uF	20%	50V
C77	1-161-772-11	CERAMIC	0.1uF	10%	25V
C80	1-102-947-00	CERAMIC	10PF	5%	50V
C81	1-102-947-00	CERAMIC	10PF	5%	50V
C90	1-161-379-00	CERAMIC	0.01uF	20%	25V
C91	1-124-584-00	ELECT	100uF	20%	10V
C300	1-161-772-11	CERAMIC	0.1uF	10%	25V
C301	1-126-159-11	ELECT	0.47uF	20%	50V
C302	1-101-880-00	CERAMIC	47PF	5%	50V
C303	1-161-055-00	CERAMIC	0.022uF	10%	50V
C304	1-126-301-11	ELECT	1uF	20%	50V
C305	1-161-379-00	CERAMIC	0.01uF	20%	25V
C306	1-124-234-00	ELECT	22uF	20%	16V
C307	1-161-083-00	CERAMIC	0.0033uF	20%	50V
C308	1-161-049-00	CERAMIC	0.0068uF	10%	50V
C309	1-161-055-00	CERAMIC	0.022uF	10%	50V
C310	1-162-293-31	CERAMIC	820PF	10%	50V
C311	1-161-055-00	CERAMIC	0.022uF	10%	50V
C312	1-161-055-00	CERAMIC	0.022uF	10%	50V

Ref. No.	Part No.	Description			Remark
C313	1-161-051-00	CERAMIC	0.01uF	10%	50V
C314	1-161-055-00	CERAMIC	0.022uF	10%	50V
C315	1-126-301-11	ELECT	1uF	20%	50V
C316	1-126-301-11	ELECT	1uF	20%	50V
C317	1-124-464-11	ELECT	0.22uF	20%	50V
C318	1-161-039-00	CERAMIC	0.001uF	10%	50V
C319	1-126-157-11	ELECT	10uF	20%	16V
C320	1-126-301-11	ELECT	1uF	20%	50V
C321	1-126-301-11	ELECT	1uF	20%	50V
C322	1-102-951-00	CERAMIC	15PF	5%	50V
C323	1-162-294-31	CERAMIC	0.001uF	10%	50V
C324	1-126-301-11	ELECT	1uF	20%	50V
C325	1-161-055-00	CERAMIC	0.022uF	10%	50V
C326	1-124-589-11	ELECT	47uF	20%	16V
C327	1-161-055-00	CERAMIC	0.022uF	10%	50V
C328	1-161-494-00	CERAMIC	0.022uF		25V
C329	1-161-055-00	CERAMIC	0.022uF	10%	50V
C330	1-161-494-00	CERAMIC	0.022uF		25V
C332	1-162-207-31	CERAMIC	22PF	5%	50V
C333	1-161-055-00	CERAMIC	0.022uF	10%	50V
C335	1-161-055-00	CERAMIC	0.022uF	10%	50V
C337	1-126-934-11	ELECT	220uF	20%	16V

< DIODE >

D3	8-719-109-89	DIODE	RD5.6ESB2
D7	8-719-109-85	DIODE	RD5.1ESB2
D8	8-719-110-23	DIODE	RD11ES-B3
D9	8-719-921-77	DIODE	MTZN-10C
D10	8-719-989-90	DIODE	1N4148A
D11	8-719-989-90	DIODE	1N4148A
D12	8-719-989-90	DIODE	1N4148A
D13	8-719-989-90	DIODE	1N4148A
D15	8-719-989-90	DIODE	1N4148A
D17	8-719-989-90	DIODE	1N4148A
D18	8-719-989-90	DIODE	1N4148A
D19	8-719-989-90	DIODE	1N4148A
D20	8-719-989-90	DIODE	1N4148A
D21	8-719-989-90	DIODE	1N4148A
D22	8-719-989-90	DIODE	1N4148A
D23	8-719-989-90	DIODE	1N4148A
D25	8-719-989-90	DIODE	1N4148A
D28	8-719-989-90	DIODE	1N4148A
D31	8-719-989-90	DIODE	1N4148A
D32	8-719-989-90	DIODE	1N4148A
D33	8-719-989-90	DIODE	1N4148A
D34	8-719-989-90	DIODE	1N4148A
D39	8-719-989-90	DIODE	1N4148A
D40	8-719-989-90	DIODE	1N4148A
D41	8-719-989-90	DIODE	1N4148A

MAIN

Ref. No.	Part No.	Description	Remark
D43	8-719-989-90	DIODE 1N4148A	
D46	8-719-989-90	DIODE 1N4148A	
D47	8-719-989-90	DIODE 1N4148A	
D51	8-719-989-90	DIODE 1N4148A	
D52	8-719-989-90	DIODE 1N4148A	
D53	8-719-989-90	DIODE 1N4148A	
D54	8-719-989-90	DIODE 1N4148A	
D55	8-719-989-90	DIODE 1N4148A	
D56	8-719-989-90	DIODE 1N4148A	
D57	8-719-989-90	DIODE 1N4148A	
D58	8-719-989-90	DIODE 1N4148A	
D59	8-719-989-90	DIODE 1N4148A	
D61	8-719-989-90	DIODE 1N4148A	
D62	8-719-989-90	DIODE 1N4148A	
D63	8-719-200-02	DIODE 10E2	
D64	8-719-200-02	DIODE 10E2	
D65	8-719-989-90	DIODE 1N4148A	
D66	8-719-989-90	DIODE 1N4148A	
D67	1-810-735-11	DIODE RL204	
D68	8-719-989-90	DIODE 1N4148A	
D69	8-719-989-90	DIODE 1N4148A	
D70	8-719-989-90	DIODE 1N4148A	
D71	8-719-010-34	DIODE UZ-4.7BSC	
D72	8-719-109-97	DIODE RD6.8ESB2	
D73	8-719-109-93	DIODE RD6.2ESB2	
D74	8-719-921-77	DIODE MTZN-10C	
D300	8-719-989-90	DIODE 1N4148A	
D301	8-719-109-85	DIODE RD5.1ESB2	
D302	8-719-989-90	DIODE 1N4148A	
		< FRONT END >	
FE1	1-467-982-11	RF UNIT, FM	
FE2	1-693-278-11	FRONT END, AM	
		< CONNECTOR >	
J1	1-770-052-11	CONNECTOR, ANT (ANTENNA)	
J57	1-770-083-11	CONNECTOR 3P	
J59	1-770-084-11	CONNECTOR 12P	
		< COIL >	
L1	1-411-126-11	COIL, CHOKE	
L2	1-500-176-11	BEAD, FERRITE	
L3	1-410-501-11	INDUCTOR 2.2uH	
L4	1-410-324-11	INDUCTOR 4.7uH	
		< LIQUID CRYSTAL DISPLAY >	
M007	1-810-720-11	DISPLAY PANEL, LIQUID CRYSTAL	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
M1	1-571-478-11	SWITCH, SLIDE (OUTPUT SELECT)	
		< VIBRATOR >	
M3	1-760-531-11	VIBRATOR, CRYSTAL (7.2MHz)	
M300	1-579-278-11	VIBRATOR, CERAMIC (19kHz)	
		< FILTER >	
M301	1-567-107-00	FILTER, CERAMIC	
M302	1-760-022-11	FILTER, CERAMIC	
		< COIL >	
M303	1-411-127-11	COIL, FM DET	
		< TRANSISTOR >	
Q4	1-800-830-11	TRANSISTOR 2SC536-G	
Q5	1-800-830-11	TRANSISTOR 2SC536-G	
Q6	1-800-830-11	TRANSISTOR 2SC536-G	
Q12	1-810-731-11	TRANSISTOR KTC8050C	
Q13	1-810-731-11	TRANSISTOR KTC8050C	
Q14	1-810-731-11	TRANSISTOR KTC8050C	
Q20	1-806-269-41	TRANSISTOR 2SA608K-G	
Q34	1-810-731-11	TRANSISTOR KTC8050C	
Q35	1-810-731-11	TRANSISTOR KTC8050C	
Q36	1-810-731-11	TRANSISTOR KTC8050C	
Q37	1-810-731-11	TRANSISTOR KTC8050C	
Q38	1-810-731-11	TRANSISTOR KTC8050C	
Q39	1-800-830-11	TRANSISTOR 2SC536-G	
Q40	1-806-269-41	TRANSISTOR 2SA608K-G	
Q41	1-800-830-11	TRANSISTOR 2SC536-G	
Q42	1-800-830-11	TRANSISTOR 2SC536-G	
Q43	1-800-830-11	TRANSISTOR 2SC536-G	
Q44	1-800-830-11	TRANSISTOR 2SC536-G	
Q300	1-806-269-41	TRANSISTOR 2SA608K-G	
Q301	1-800-830-11	TRANSISTOR 2SC536-G	
Q303	8-729-266-82	TRANSISTOR 2SC2668-O	
Q304	8-729-266-82	TRANSISTOR 2SC2668-O	
Q305	1-806-269-41	TRANSISTOR 2SA608K-G	
		< RESISTOR >	
R1	1-247-855-51	CARBON 10K 5% 1/4W	
R3	1-249-417-11	CARBON 1K 5% 1/4W	
R5	1-249-432-11	CARBON 18K 5% 1/4W	
R6	1-247-855-51	CARBON 10K 5% 1/4W	
R7	1-249-426-11	CARBON 5.6K 5% 1/4W	
R8	1-247-855-51	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description				Remark
R9	1-249-417-11	CARBON	1K	5%	1/4W	
R10	1-247-855-51	CARBON	10K	5%	1/4W	
R11	1-249-433-11	CARBON	22K	5%	1/4W	
R12	1-249-433-11	CARBON	22K	5%	1/4W	
R13	1-247-855-51	CARBON	10K	5%	1/4W	
R14	1-247-855-51	CARBON	10K	5%	1/4W	
R15	1-249-423-11	CARBON	3.3K	5%	1/4W	
R16	1-247-827-11	CARBON	680	5%	1/4W	
R19	1-215-233-11	METAL	2K	1%	1W	
R21	1-249-432-11	CARBON	18K	5%	1/4W	
R22	1-249-433-11	CARBON	22K	5%	1/4W	
R26	1-249-406-11	CARBON	120	5%	1/4W	
R28	1-249-423-11	CARBON	3.3K	5%	1/4W	
R30	1-247-827-11	CARBON	680	5%	1/4W	
R31	1-247-855-51	CARBON	10K	5%	1/4W	
R32	1-249-434-11	CARBON	27K	5%	1/4W	
R33	1-247-827-11	CARBON	680	5%	1/4W	
R34	1-247-879-11	CARBON	100K	5%	1/4W	
R35	1-249-417-11	CARBON	1K	5%	1/4W	
R36	1-249-413-11	CARBON	470	5%	1/4W	
R37	1-249-423-11	CARBON	3.3K	5%	1/4W	
R38	1-249-427-11	CARBON	6.8K	5%	1/4W	
R39	1-247-897-11	CARBON	560K	5%	1/4W	
R40	1-247-855-51	CARBON	10K	5%	1/4W	
R41	1-247-855-51	CARBON	10K	5%	1/4W	
R42	1-249-416-11	CARBON	820	5%	1/4W	
R43	1-247-839-11	CARBON	2.2K	5%	1/4W	
R44	1-247-839-11	CARBON	2.2K	5%	1/4W	
R45	1-247-855-51	CARBON	10K	5%	1/4W	
R46	1-247-879-11	CARBON	100K	5%	1/4W	
R47	1-247-897-11	CARBON	560K	5%	1/4W	
R50	1-247-871-11	CARBON	47K	5%	1/4W	
R51	1-247-871-11	CARBON	47K	5%	1/4W	
R53	1-249-423-11	CARBON	3.3K	5%	1/4W	
R54	1-249-409-11	CARBON	220	5%	1/4W	
R55	1-249-409-11	CARBON	220	5%	1/4W	
R56	1-247-889-00	CARBON	270K	5%	1/4W	
R57	1-247-889-00	CARBON	270K	5%	1/4W	
R58-61						
	1-249-433-11	CARBON	22K	5%	1/4W	
R62	1-247-855-51	CARBON	10K	5%	1/4W	
R63	1-247-855-51	CARBON	10K	5%	1/4W	
R64	1-249-433-11	CARBON	22K	5%	1/4W	
R68	1-249-417-11	CARBON	1K	5%	1/4W	
R69	1-249-417-11	CARBON	1K	5%	1/4W	
R70	1-249-381-11	CARBON	1	5%	1/4W	
R71	1-249-423-11	CARBON	3.3K	5%	1/4W	
R72	1-249-423-11	CARBON	3.3K	5%	1/4W	
R74	1-249-433-11	CARBON	22K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R75	1-249-409-11	CARBON	220	5%	1/4W	
R76	1-249-409-11	CARBON	220	5%	1/4W	
R77	1-249-435-11	CARBON	33K	5%	1/4W	
R78	1-249-424-11	CARBON	3.9K	5%	1/4W	
R79	1-247-825-11	CARBON	560	5%	1/4W	
R80	1-247-807-11	CARBON	100	5%	1/4W	
R81	1-249-426-11	CARBON	5.6K	5%	1/4W	
R82	1-247-807-11	CARBON	100	5%	1/4W	
R83-86						
	1-249-385-11	CARBON	2.2	5%	1/6W	
R87	1-249-423-11	CARBON	3.3K	5%	1/4W	
R88	1-249-423-11	CARBON	3.3K	5%	1/4W	
R89	1-247-807-11	CARBON	100	5%	1/4W	
R90	1-247-807-11	CARBON	100	5%	1/4W	
R91	1-249-426-11	CARBON	5.6K	5%	1/4W	
R92	1-247-855-51	CARBON	10K	5%	1/4W	
R93	1-247-839-11	CARBON	2.2K	5%	1/4W	
R94	1-247-811-31	CARBON	150	5%	1/4W	
R95	1-249-423-11	CARBON	3.3K	5%	1/4W	
R96	1-247-855-51	CARBON	10K	5%	1/4W	
R97	1-217-491-11	FUSIBLE	68	5%	1W	F
R99	1-247-855-51	CARBON	10K	5%	1/4W	
R300	1-238-601-11	RES, ADJ, CARBON	22K			
R301	1-247-879-11	CARBON	100K	5%	1/4W	
R302	1-247-871-11	CARBON	47K	5%	1/4W	
R303	1-247-847-11	CARBON	4.7K	5%	1/4W	
R304	1-247-879-11	CARBON	100K	5%	1/4W	
R305	1-249-435-11	CARBON	33K	5%	1/4W	
R306	1-228-996-00	RES, ADJ, METAL	47K			
R307	1-247-883-00	CARBON	150K	5%	1/4W	
R308	1-238-602-11	RES, ADJ, CARBON	47K			
R309	1-247-879-11	CARBON	100K	5%	1/4W	
R310	1-249-433-11	CARBON	22K	5%	1/4W	
R311	1-247-855-51	CARBON	10K	5%	1/4W	
R312	1-249-424-11	CARBON	3.9K	5%	1/4W	
R313	1-247-872-11	CARBON	51K	5%	1/4W	
R314	1-249-428-11	CARBON	8.2K	5%	1/4W	
R315	1-247-855-51	CARBON	10K	5%	1/4W	
R316	1-249-427-11	CARBON	6.8K	5%	1/4W	
R317	1-247-852-11	CARBON	7.5K	5%	1/4W	
R320	1-249-426-11	CARBON	5.6K	5%	1/4W	
R321	1-247-855-51	CARBON	10K	5%	1/4W	
R322	1-238-601-11	RES, ADJ, CARBON	22K			
R323	1-247-852-11	CARBON	7.5K	5%	1/4W	
R324	1-247-866-11	CARBON	30K	5%	1/4W	
R325	1-247-807-11	CARBON	100	5%	1/4W	
R326	1-249-411-11	CARBON	330	5%	1/4W	
R327	1-249-411-11	CARBON	330	5%	1/4W	
R328	1-249-413-11	CARBON	470	5%	1/4W	

MAIN **VOL (A)** **VOL (B)**

Ref. No.	Part No.	Description			Remark
R329	1-249-423-11	CARBON	3.3K	5%	1/4W
R330	1-249-413-11	CARBON	470	5%	1/4W
R331	1-249-401-11	CARBON	47	5%	1/4W
R332	1-249-411-11	CARBON	330	5%	1/4W
R333	1-247-811-31	CARBON	150	5%	1/4W
R334	1-249-397-11	CARBON	22	5%	1/4W
R335	1-249-433-11	CARBON	22K	5%	1/4W
R336	1-249-433-11	CARBON	22K	5%	1/4W
R338	1-238-602-11	RES, ADJ, CARBON	47K		
R339	1-249-433-11	CARBON	22K	5%	1/4W
R340	1-247-839-11	CARBON	2.2K	5%	1/4W
		< IC >			
U1	1-810-732-11	IC TC9309F			
U2	1-810-733-11	IC LA6458M			
U3	8-759-062-62	IC TDA1554Q			
U301	1-810-734-11	IC LA1862M			
**********					
*	1-654-852-11	VOL (A) BOARD			
		**********			
	1-770-051-11	CONNECTOR 7P			
		< CAPACITOR >			
C478	1-162-294-31	CERAMIC	0.001uF	10%	50V
C509	1-126-925-11	ELECT	470uF	20%	10V
C510	1-126-159-11	ELECT	0.47uF	20%	50V
C511	1-126-159-11	ELECT	0.47uF	20%	50V
C512	1-161-325-11	CERAMIC	0.0015uF	10%	50V
C513	1-161-325-11	CERAMIC	0.0015uF	10%	50V
C514	1-161-054-00	CERAMIC	0.018uF	5%	25V
C515	1-161-054-00	CERAMIC	0.018uF	5%	25V
C518-521					
	1-126-301-11	ELECT	1uF	20%	50V
		< DIODE >			
D403	8-719-010-34	DIODE	UZ-4.7BSC		
D428	8-719-989-90	DIODE	1N4148A		
D501	8-719-989-90	DIODE	1N4148A		
D502	8-719-989-90	DIODE	1N4148A		
		< TRANSISTOR >			
Q408	1-806-269-41	TRANSISTOR	2SA608K-G		
Q411	1-800-830-11	TRANSISTOR	2SC536-G		
Q501	1-810-731-11	TRANSISTOR	KTC8050C		
Q502	1-810-731-11	TRANSISTOR	KTC8050C		
Q503	1-800-830-11	TRANSISTOR	2SC536-G		
Q504	1-800-830-11	TRANSISTOR	2SC536-G		
Q505	1-800-830-11	TRANSISTOR	2SC536-G		

Ref. No.	Part No.	Description			Remark
Q506	1-800-830-11	TRANSISTOR	2SC536-G		
		< RESISTOR >			
R438	1-249-423-11	CARBON	3.3K	5%	1/4W
R439	1-249-483-11	CARBON	5.6	5%	1/2W
R442	1-249-423-11	CARBON	3.3K	5%	1/4W
R445	1-249-422-11	CARBON	2.7K	5%	1/4W
R450	1-247-871-11	CARBON	47K	5%	1/4W
R456	1-247-871-11	CARBON	47K	5%	1/4W
R501	1-247-847-11	CARBON	4.7K	5%	1/4W
R511	1-249-426-11	CARBON	5.6K	5%	1/4W
R512	1-249-426-11	CARBON	5.6K	5%	1/4W
R513-516					
	1-249-428-11	CARBON	8.2K	5%	1/4W
R517	1-249-409-11	CARBON	220	5%	1/4W
R518	1-249-422-11	CARBON	2.7K	5%	1/4W
R519	1-247-903-00	CARBON	1M	5%	1/4W
R520	1-247-903-00	CARBON	1M	5%	1/4W
R521	1-249-418-11	CARBON	1.2K	5%	1/4W
R522	1-249-418-11	CARBON	1.2K	5%	1/4W
R523	1-249-432-11	CARBON	18K	5%	1/4W
R524	1-249-432-11	CARBON	18K	5%	1/4W
R525	1-249-426-11	CARBON	5.6K	5%	1/4W
R526	1-249-426-11	CARBON	5.6K	5%	1/4W
R527	1-247-847-11	CARBON	4.7K	5%	1/4W
R528	1-247-847-11	CARBON	4.7K	5%	1/4W
R529	1-247-855-11	CARBON	10K	5%	1/4W
R530	1-247-855-11	CARBON	10K	5%	1/4W
R531	1-249-413-11	CARBON	470	5%	1/4W
R535	1-249-409-11	CARBON	220	5%	1/4W
R536	1-249-422-11	CARBON	2.7K	5%	1/4W
		< VARIABLE RESISTOR >			
RV503	1-223-818-11	RES, VAR (WITH SW) 50KX4 (FAD/VOL)			
**********					
*	1-654-855-11	VOL (B) BOARD			
		**********			
		< VARIABLE RESISTOR >			
RV501	1-223-819-11	RES, VAR (WITH CENTER CLICK) 50K (BAL)			
RV502	1-223-820-11	RES, VAR (WITH CENTER CLICK) 50KX2 (TONE)			
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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
21	1-769-262-11	CORD (WITH CONNECTOR) 7P	
26	1-769-261-11	CORD (WITH CONNECTOR) 3P	
33	1-769-257-11	CORD (WITH CONNECTOR) (POWER A)	
34	1-769-259-11	CORD (WITH CONNECTOR) (POWER B)	
35	1-769-258-11	CORD (WITH CONNECTOR) (SPEAKER A)	
36	1-769-260-11	CORD (WITH CONNECTOR) (SPEAKER B)	
F901	1-532-360-XX	FUSE (1A/125V)	
F902	1-533-301-11	FUSE (6A/125V)	
HP701	1-543-717-11	HEAD, MAGNETIC (PLAYBACK)	
M701	X-3364-496-1	MOTOR ASSY	
S701	1-692-502-11	SWITCH, SLIDE (DIRECTION)	
S702	1-692-065-11	SWITCH, LEAF (MUTE)	
S703	1-554-790-21	SWITCH, POWER (TAPE DET)	

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HARDWARE LIST

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#1	7-621-770-67	SCREW +PTT 2.6X6 (S)	
#2	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
#3	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
#4	7-621-555-10	SCREW +K 2X3	
#5	7-621-255-25	SCREW +PTT 2X4 (S)	
#6	7-627-553-88	SCREW, PRECISION +P 2X7	
#7	7-624-102-04	STOP RING 1.5, TYPE -E	
#8	7-624-104-04	STOP RING 2.0, TYPE -E	
#9	7-624-118-01	RING, RETAINING E-2.5	
#10	7-627-553-48	SCREW, PRECISION +P 2X4	
#11	7-621-255-15	SCREW +P 2X3	
#12	7-621-591-00	SCREW +K 2X4	
#13	7-621-770-87	SCREW +B 2.6X5	
#14	7-621-559-32	SCREW +K 2.6X5	
#15	7-621-773-87	SCREW +PTT 2.6X10 (S)	
#16	7-621-775-68	SCREW +PTT 2.6X12 (S)	
#17	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#18	7-621-770-XX	SCREW +PTT 2.6X8 (S)	
#19	7-621-773-86	SCREW +PTT 2.6X4 (S)	

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Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-759-477-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	
	3-759-478-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH)	
	3-919-986-01	BOLT, FITTING	

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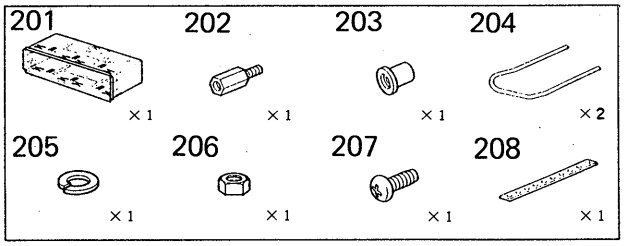
		MOUNTING HARDWARE	
		**********	
201	3-919-730-01	FRAME, FITTING	
202	3-919-731-01	BOLT, HEXAGON	
203	3-919-732-01	BUSHING, RUBBER	
204	3-919-736-01	BRACKET (PULL PUNCHING)	
205	3-919-734-01	WASHER	
206	3-919-941-01	NUT	
207	3-919-735-01	SCREW, +P TAPPING	
208	3-919-733-01	BRACKET	



9-959-802-12

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SONY®
SERVICE MANUAL

US Model
Canadian Model

CORRECTION-1

Correct your service manual as shown below.

☛: indicates corrected portion.

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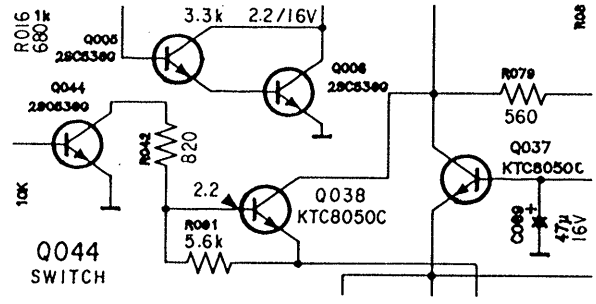
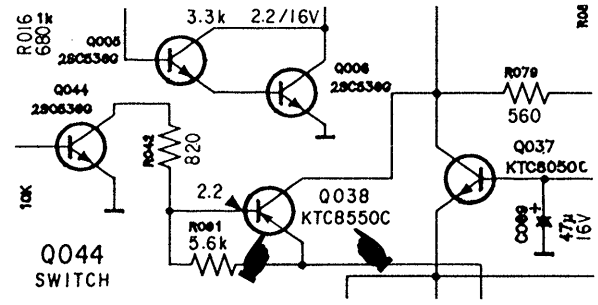
<tr><td>20</td><td> 
</td><td> 
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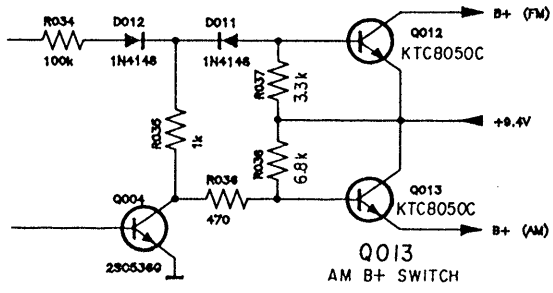
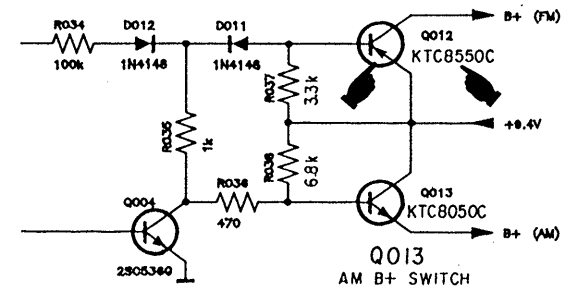
<tr><td>25</td><td> 
</td><td> 
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<tr><td>44</td><td>Ref. No. Part No. Description Remark
Q12 1-810-731-11 TRANSISTOR KTC8050C
Q38 1-810-731-11 TRANSISTOR KTC8050C</td><td>Ref. No. Part No. Description Remark
Q12 8-729-033-73 TRANSISTOR KTC8550C
Q38 8-729-033-73 TRANSISTOR KTC8550C</td></tr>
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(ECN-CS501396)

9-959-802-91

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